**BIOL 203 Lab Report Assignment**

Aria’s Case

Aria is a 30-year-old woman who recently presented in the emergency room after a bicycle accident. The ER nurses treated several lacerations and abrasions to the right side of Aria’s face and her right arm. X-ray images showed a complete transverse fracture of Aria’s right wrist and fractures to her right temporal bone. The attending physician placed a cast on Aria’s arm and proceeded to examine her for the extent of the head trauma.

When asked to walk across the room, Aria complained of dizziness and had trouble keeping her balance. Aria was unable to hear clearly through her right ear and when a struck tuning fork was placed on her forehead, she could hear it only on the left side. When asked to sniff a vial of vanilla extract, Aria correctly identified the odor. An eye exam revealed that Aria’s visual acuity and peripheral vision were normal. The doctor then asked Aria to follow a penlight with her eyes as he moved the light to Aria’s right, left, up, down, and towards her nose. Both eyes tracked the light as normal. The doctor examined Aria’s face for symmetry and observed some weakness in the eyelids, eyebrows, lips, and forehead on the right side. A taste test revealed that Aria was unable to distinguish sweet and salty tastes on the anterior right side of her tongue. Aria was able to feel a warm probe applied to her forehead, cheek, and chin. When asked to clench her jaw, the physician observed a strong and symmetrical contraction. Aria’s gag reflex was normal.

Based on her symptoms, the physician concluded that Aria had cranial nerve damage. He advised his patient that she may require surgery and sent her back to radiography for thin-slice CT scans of her skull.

For this assignment, you are the physician! Your task is to determine which cranial nerve(s) are damaged in Aria’s case. You will use the data you gathered in lab as the “normal” or **control** subject. Use the description of Aria’s symptoms in the case given above to formulate data for an “abnormal” or **experimental** subject. Compare the data from the control subject (your lab partner) to the data for the experimental subject (Aria) to determine what sensory or motor deficits Aria is experiencing. Use your knowledge of the anatomy and function of each cranial nerve to determine which cranial nerve or nerves were affected by her injuries. To write your lab report, follow the format specified on the last page of this document and use the rubric provided to guide the content.

**Assignment Guidelines:**

1. Although you worked with a partner while completing the lab exercise, **you must write your own, individual lab report**. Copying another student’s paper or portions thereof constitutes plagiarism.
2. The lab report must be typed and submitted via Canvas. Every lab report submitted will be checked by an online similarity detection program (Unicheck) and reviewed by the instructor. Detection of plagiarism may result in a grade of 0 and formal citation for infraction of the HCC code of conduct. Citations of references must be included in the submitted assignment. For more information on HCC’s policies on academic honesty, please see the statement on academic honesty below and the HCC student handbook.
3. Make sure to use in-text citations when quoting or paraphrasing words, phases, ideas, or data from another source. Merely rearranging the order of words and not using an in text citation constitutes plagiarism. APA style format for in text and full citations must be used.
4. Be as concise as possible. Be specific in your wording. The best lab reports are ones that make every word count. Strive for logic and precision and avoid ambiguity. Keep the writing impersonal; **do not** use person (i.e., I or we).
5. Proofread your report before submitting it for grading. Mistakes in grammar and spelling will factor into your final grade. Have a neutral person review and critique your report before submission. If you need help, see your instructor or go to the LAC for assistance.
6. The report needs to be written in sufficient detail so that a person with the same background as you can read the report and understand it.
7. Be sure to explain why the hypothesis was accepted or rejected. Include data from the lab results to support your conclusions.
8. Data must be presented in a suitable format such as a graph, table, or chart.

**Statement on academic honesty:**

**Academic honesty is required of every HCC student**. An infraction of the academic honesty code

includes copying other students’ work or published materials. The HCC handbook states:

“Academic Honesty means the use of one’s own thoughts and materials in all academic activities… A violation of academic honesty involves misrepresentation, the submission of materials for evaluation that are not the student’s own, or fulfillment of an academic exercise that does not result from individual effort or intellectual production.

Students are expected to give full credit for the borrowing of other’s words or ideas. Intentional or unintentional use of another’s words or ideas without acknowledging this use constitutes plagiarism. There are four common forms of plagiarism:

* duplication of an author’s words without quotation marks and accurate citation and documentation;
* duplication of an author’s words or phrases with accurate citation and documentation, but without proper use of quotation marks or block indentation, as required;
* use of an author’s ideas in paraphrase without accurate citation and documentation; or
* submission of a paper in which exact words are merely rearranged even though footnoted.

Every student is expected to submit work for a course or for any other academic purpose that has been done solely for that course or for that purpose. If a student wishes to submit the same or similar work for any other course or for any other academic purpose within the college, prior written permission of the instructor of the course in which the assignment is being submitted must be obtained.

Any student intentionally aiding another student in any infraction of the academic honesty policy is considered equally responsible.”

**The penalty for the first infraction of the Academic Honesty policy is to receive a zero on the assignment. The second offense may result in a failing grade for the course**.

 ***BIOL 203 Lab Report Grading Rubric***

**Item Possible points Your score**

**Abstract** (2 pt total)

* give a brief overview (1 paragraph)of the study and the conclusions

that can be made from it **2**

**Introduction** (8 pts total)

**Purpose** – statement of overall purpose of study  **1**

**Background**

* Provide a general description of cranial nerves **1**
* Identify the cranial nerve(s) that carry sensory information to the brain

and identify the structures which those nerve innervate **2**

* Identify the cranial nerve(s) that carry motor commands from the brain

And identify the structures which those nerves control **2**

**Hypothesis** – Predict which cranial nerve(s) is/are malfunctioning in Aria’s case **2**

**Procedures** (2 pts total)

* Briefly explain how the function of each of the nerves identified above was

tested in the lab  **2**

**Results** (2 pts total)

* Report data in table format (include the control data collected in the lab **1**

and compare it to the data from Aria’s examination)

* Give proper labels and titles for tables and graphs **1**

**Discussion** (8 pts total)

**Summary and interpretation of data**

* For each test performed, compare the results between the control and

experimental subjects **2**

* Relate the results to the background information in the Introduction **2**

**Analysis of results**

* Explain how the results support the hypothesis

- OR - Explain how the results contradict the hypothesis **3**

* Describe any points of uncertainty or further questions **1**

**Literature cited** (2 pts total)

* APA style list of references and in-text citations **2**

**Use of correct format** **for report** (see page below) **1**

**Total points for assignment** **25**

**Format: Your paper must follow the format outlined below. The format of this paper follows the APA research report format. An example of this format can be found at: http://www.thewritesource.com/apa/apa.pdf**

**Title Page**: The title page should be on a separate sheet of paper and contain

 the title of the report, your name, the name(s) of your lab partner(s),

 the course number and the date that the report was submitted.

**The body of the paper should contain the following clearly labeled sections:**

**Abstract**: In this section, you will include a single paragraph to summarize the background and main results. Write this part last.

**Introduction**: An introduction provides a concise statement, in paragraph form, of the

purpose or aims of the experiment as well as the relevant background about the experiment. Although the introduction varies with the style of the author and tests performed, it should only contain information that is relevant to the case. The introduction should be about one typed page in length. You must include a hypothesis based on the information in Aria’s case. Give the reasoning for your hypothesis based on what is known about the function of the cranial nerves. Make sure to cite all references properly in the body of the paper

**Procedures**: This section explicitly describes the details of the tests performed. Do not copy directly from the lab manual but do cite the manual as a reference. Describe in your own words the procedures you used to test the functions of cranial nerves.

**Results**: This section is used to present your results. You should not report raw data. It should be tabulated and presented in the form of tables and graphs. Make sure that all tables and graphs are labeled appropriately. Be sure to include data for both the control and the experimental subjects.

**Discussion**: The data is analyzed and discussed in this section. It is important to interpret the data, not simply restate it. Here is where you relate your experimental results to existing knowledge of the function of the cranial nerves. Are your results in agreement with your hypothesis? Discuss this, and try to explain any discrepancies. What are the main points of uncertainty in interpreting your data? You may speculate, but acknowledge that you are doing that. Include suggestions that you may have for improving the design of the tests. If you use material from other sources to support your discussion, you must cite the reference.

**Literature Cited**: Use the APA format for citations within the paper and in your reference list. Consult <http://owl.english.purdue.edu/owl/resource/560/01/>

if you are unfamiliar with this format.