

## Lab Report: Respiratory & Circulatory Systems Investigation

**Objective/Overview:** You (along with 1 or 2 other students) will design and carry out an experiment to test the effects of exercise on either the respiratory or circulatory system, analyze and interpret the data, and present your findings in a lab report.

**What will be your testable question or purpose of your experiment?** "What are we trying to discover?"

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**Title:** Your title should indicate what the lab is about using the independent and dependent variables.

### **Introduction: WHY DID YOU STUDY THIS PROBLEM?**

- ✓ Relate to: the course and/or real life
- ✓ Information should be properly referenced in text citations (author, year)
- ✓ Applications of the phenomenon studied to real life situations must be explained
- ✓ The Introduction should end with a PURPOSE statement (developed from your question)  
*Ex. The purpose of this investigation was to determine the effects of .....*

### **Hypothesis:**

- ✓ Suggest an outcome of the investigation based on the relationship you outlined (if.....then.....because.....)

### **Materials and Methods: WHAT DID YOU DO? HOW DID YOU DO IT?**

- ✓ Describe how and when you did your work, including experimental design, experimental apparatus, methods of gathering and analyzing data, and types of control
- ✓ Complete details and be written clearly to allow readers to duplicate the experiment if they wish
- ✓ This section is written in past tense because you have already done the experiment
- ✓ It should be written in the form of instructions or as a list of materials, as in baking a recipe in a kitchen
- ✓ Photographs, maps, and diagrams of apparatus may be used to help describe the experimental set up, but must be properly referenced or captioned.

### **Results: WHAT DID YOU FIND?**

- ✓ You present your observations and data (qualitative & quantitative) clearly and precisely with no interpretations or conclusions about what they mean
- ✓ Tables and graphs should be used with descriptive titles. Raw data will probably be most effective in table format
- ✓ Use past tense to describe your results

### **Analysis: HOW CAN WE INTERPRET IT?**

- ✓ Raw data is not the most effective way in showing relationships and making meaning. If at all possible, you should be making graphs from your data so that others can quickly look at the information and have an understanding of the trend.
- ✓ It should start with written text that should be a brief summary of significant results. It may be as short as one sentence, or a paragraph summarizing highlights and directing the reader to the appropriate Tables, Graphs and/or Figures.
- ✓ Be sure to identify the independent, dependent and controlled variables of importance.
- ✓ Once your data is analyzed, you should be able to write a conclusion that either supports or refutes your hypothesis

### **Conclusion: Reference to the problem or purpose must be mentioned first.**

- ✓ - Then, did your **hypothesis** prove to be **correct or incorrect**? It is okay if your hypothesis is incorrect. In either case (right or wrong) provide some **reasoning** for what you discovered or proved (why was it right or wrong?).
- ✓ - Make a **summary statement** of what was learned or gained from the activity.

### **Applications and Extensions: HOW DOES THIS APPLY TO REAL LIFE?**

- ✓ Describe how the knowledge you gained from your investigation relates to real-life situations. How can this knowledge be used?

### **IMPORTANT**

- ✓ Discussion with peers is an integral part of the lab, however, **copying and plagiarism** of any kind will **not be tolerated**. A **zero** will be given to any lab report that has been **copied and/or copied from**.
- ✓ Any lab report submitted with the aid of an artificial program (ie. ChatGPT, OpenAI) with result in a **zero** with the group starting over from scratch with a brand new purpose & problem & data
- ✓ All reports are to be typed, in a DOCS, WORD, or PAGES format, and submitted either electronically or hard copy.