

Unit 3 Laboratory

Determining Lung Capacity

Long volume varies among individuals and depends on many factors such as:

- sex
- body size
- physical fitness
- lifestyle behaviours

We will be using an instrument called a spirometer to measure the amount of air that an individual can breathe during normal breathing or during forced inhalation and exhalation. This information can be used to determine and compare the amount of oxygen used by individuals.

This Observational Study will consist of the following elements:

1. Title Page

- Refer to the exemplar discussed in class.

2. Revue of literature

- All essential and pertinent terms are defined and discussed.
- Previous studies related to the research questions are discussed and critiqued.

3. Purpose

- The purpose of this activity is to determine the factors that influence the lung capacity of individuals (Vital capacity (**VC**) and Expiratory Reserve Volume (**ERV**)).

4. Testable Research Questions

- These questions will be determined as a group based on the interest of the students involved.

5. Hypothesis/Prediction

- This will be a proposed answer to your testable question(s).
 - Please include both a prediction as well as a reason for this prediction based on scientific theory, previous research or other generalizations.

6. Equipment and Materials

- Spiromter
- Disposable mouthpiece
- Pencil

7. Procedures

- Describe, in detailed, numbered steps, the procedure you followed to carry out your investigation. Please remember to use the past passive tense (ex: The test tubes **were** heated).

8 Observations/Results

- Present your findings in a clear table that represents all the variables considered in the investigation. (possible ex: age, height, sex, smoker?, etc.)
- Keeping in line with the research questions, provide titled bar graphs to present/compare your findings.

9. Discussion/Analysis

- Interpret your observations in both your table and your bar graphs .
 - ✓ be sure to cover all information that related to each of the research questions.
- Relate your findings to previous studies discussed in your revue of literature.
- Make statements about any patterns or trends you have observed
- discuss possible sources of error.

10. Conclusion

- summarize how your findings relate to the purpose by answering the questions that initiated the investigation and highlighting other significant findings of the investigation.

11. Reference list

- Please refer to the APA documentation previously studied in class.