

Review Sheet/NYS Regents Lab Activity #2
Making Connections (Union-Endicott CS review sheet revision)

Important Terms

Pulse Rate	Dependent variable
Muscle fatigue	Control
Homeostasis	Trial
Hypothesis	Sample size
Independent variable	Histogram

Key Points I

1. In order to find a hypothesis, one looks for _____. For example, we did not see a connection between pulse rate and height, but we did see a connection between pulse rate and exercise.
2. Graphs and data tables present data in a clear, _____ way that is easy to understand.
3. Pulse rate _____ during exercise because the cells need to be provided with more _____ and more wastes are produced which need to be transported to the _____ (CO₂) and the kidneys (urea).
4. Muscles become fatigued, tired, due to waste products building up in them. The waste product _____ produces muscle fatigue.
5. Organ systems interact in order to maintain homeostasis.

Procedure I

1. Students found their average _____ after three trials.
2. Class results were graphed in a connected bar graph called a _____.
3. Pulse rates were found to _____ after exercising.
4. A clothespin was squeezed rapidly for one minute. The number of times that it was squeezed was recorded.
5. The clothespin was squeezed the same way for another minute. The second time produced a lesser number of squeezes for most people due to _____.

Analysis:

1. Organ systems interacted to maintain homeostasis during exercise. For example:
 - a. The _____ system takes in oxygen, which is transported to cells by the _____ system. As cells use oxygen at a higher rate, an increased heart rate would get the oxygen to the cells more _____.
 - b. As muscle cells increase their activity, they produce waste products at a higher rate. These wastes are carried to the _____ system by the blood (circulatory system) more efficiently when the heart rate increases.

2. A reliable way to test a hypothesis or a claim is to do an _____.

Key Points II:

1. Know how to design an experiment and how to interpret an experiment's design.

[Steps of an experiment]

2. _____: The variable that the scientist changes. Only one of these in an experiment. This is put on the _____ in a graph.

3. _____: The variable that is effected by the independent variable. The results. Only one of these in an experiment. This is put on the _____ in a graph.

4. _____: The experimental setup without the independent variable. The control serves as a basis to compare the results obtained by manipulating the independent variable..

5. Increasing the number of trials increases the _____ of the experiment.

6. You should be familiar with constructing a data table and a graph (line and bar).

Procedure:

1. An experiment was designed to determine the effect on exercise on squeezing a clothespin using the "Guidelines for Designing a Controlled Experiment." These guidelines are in your packet, and they were also a part of your independent investigation project.

2. You did the experiment following your _____.

3. The data was included in a data table.

4. You determined if your data accepted or rejected your _____.

5. Suggestions for improvement and further research were included in the final report.