Cardiovascular Lab

**Statement of Inquiry:** Thoughtful choices lead to transformations resulting in positive outcomes (consequences).

**Key concept:** Systems

**Related concepts:** Consequences and Transformations

**Global contexts:** Scientific and technical innovation

**Activity:**

You will be required to obtain your **resting heart rate**, **maximum heart rate,** **daily heart rate**, **exercise heart rate**, and finally **your recovery time**.

**\*\* Task: Before the lab you need to look up and understand the following terms: cardiovascular health, resting heart rate, daily heart rate, exercise heart rate and recovery time. (This information is to be included in the introduction to your lab report).**

**Background information: You must calculate the following heart rates to complete your lab report:**

**Maximum heart rate = 220-your age**

**Target exercise heart rate = 0.70 (maximum HR-resting HR) + Resting HR**

* **When taking your pulse, use two fingers (not your thumb) and count beats in 10 seconds. Multiply the number of beats x 6 to get your pulse for one minute.**

**Procedure:**

\*\*1. Lie down and rest for five minutes. Without getting up, find and take pulse.

 2. Record resting heart rate.

 3. Get up and walk around for two minutes, find and take pulse.

 4. Calculate target exercise heart rate

 5. Jog for 12 minutes AT TARGET EXERCISE HR (monitor heart rate every 3 minutes and record result).

 6. Record recovery heart rate every 30 seconds for 5 minutes.

 7. Evaluate cardiovascular health.

**Full lab report:** The assignment must be TYPED (except for results section).

**Title page:** must include lab title

**Introduction:** In a short introduction include the background information you needed to obtain as well as all the definitions of the terms**: cardiovascular health,** **resting heart rate, daily heart rate, exercise heart rate and recovery time.**

**Aim:** What is the aim of the lab? Must start with “To determine”.

**Hypothesis:** Make a prediction as to the results you expect to obtain. **Must start with: The hypothesis is……**

**Procedure: Number all steps. Record results.**

**\*\*\* Be sure to include all steps used for calculating resting heart rate, maximum heart rate, target exercise heart rate, and recovery heart rate. Procedures may vary slightly.**

**Results:**

* **Calculations:** Show your calculations for target exercise heart rate and maximum heart rate.
* **Table of Results** (should have 3 tables)
1. Resting HR, daily HR and Target Exercise HR, Recovery time
2. Exercise HR at 3, 6, 9, and 12 minutes
3. Recovery heart rate (every 30 sec for 5 minutes)
* **Graphs**
1. Plot graph demonstrating your exercise HR and your recovery from the jog. These two will be shown on the same graph.
2. In RED-label your target exercise HR on the graph
3. In Blue- label your resting heart rate on the graph

**Discussion: Answer the following questions.**

1. What is the mathematical difference between your resting HR and daily HR?
2. Why is your resting HR and daily HR different?
3. Compare and discuss your EXERCISE HR and your TARGET exercise HR.
4. How long did it take you to recovery from your jog?

**Conclusion:**

Re-state the aim and hypothesis.

Evaluate your cardiovascular fitness by making SPECIFIC references to your introduction, your results and the answers to the discussion questions.

**References:** Include all your references in proper APA style for the introduction, discussion and conclusion.

Evaluation:

IB: Criteria B: Inquiring and Designing /8

 Criteria C: Processing and Evaluating /8

Practical:

Title/ Aim/ Hypothesis/Procedure /6

Results: Calculations /2

 Tables /4

 Graphs /4 /10

Discussion: 1 mark per question /4

Conclusion: Aim and hypothesis /1

 Correct evaluation of results with reference to discussion questions /4

 Correct evaluation of cardio fitness /1 /6

Presentation: Neat, well-organized and complete. Source cited /4

Date Assigned: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date due: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_