**Recovery Time Lab Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Date \_\_\_\_\_\_\_\_ Pd. \_\_**

**Introduction:**

In this lab, you will find out how long it takes your heart rate to return to normal after exercising. This period of time is called recovery time.

**Materials:**

* Stethoscope
* Stopwatch

**Procedure:**

**Part A**

1. Hold one hand down by your side and the other straight above your head. Be sure your elbow is not bent.
2. After 45 seconds, hold both hands side-by-side and observe them closely.
3. What difference did you observe in your hands? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What may explain this difference? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Part B**

1. Use a stethoscope to listen to your heart.
2. Answer question 2.
3. Describe the sound of your heartbeat.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What is making that sound? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Part C**

1. Place 2 fingers lightly on your wrist until you can feel your pulse. Do not use your thumb or place your thumb on the back of your wrist. The pulse can usually be found on the thumb side (not pinky side) of the wrist in the crease between the arm and the hand.
2. Now, find your pulse in your neck by placing 2 fingers about 8 cm below your earlobe.
3. Answer question 3.
4. What are you actually feeling when you feel your pulse? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Part D (Do this part with a partner.)**

1. Decide who is going to be the experimental student and who is going to be the student scientist. (The experimental student will be required to run-in-place during this lab.)
2. The student scientist is now going to find the pulse of the experimental student. You may do this in the neck or the wrist. Practice doing this several times because you will need to be able to find it quickly, without hesitation, during this lab.
3. Using a stopwatch, the student scientist will count how many pulse beats he/she feels for 15 seconds. Record this on Table A for Trial 1.
4. Do this 3 more times, average the results, and record this on Table A.

**Table A**

|  |  |
| --- | --- |
| **Trial** | **Pulse Rate (per 15 seconds)** |
| **1** |  |
| **2** |  |
| **3** |  |
| **4** |  |
| **Average** |  |

1. Multiply that average by 4 to get the average pulse per minute. What is the average pulse rate (per minute) for the experimental student? \_\_\_\_\_ This is that person’s average resting pulse.
2. The experimental student will run-in-place for 1 minute while the student scientist times them with the stopwatch. (This will be the only time the student runs.)
3. Immediately after 1 minute, the experimental student stops and the student scientist counts their pulse for 15 seconds (Use the stopwatch.)

Record this on Table B for “1 Minute After Exercising” on both of your Data Sheets.

1. Exactly 1 minute later, the student scientist will take their pulse again for 15 seconds and record this on Table B for Minute 2.
2. Continue to take the pulse of the experimental student for the next 6 minutes and record that data on Table B.

**Table B**

|  |  |  |
| --- | --- | --- |
| **Minutes After Running** | **Pulse Rate (per 15 seconds)** | **Pulse Rate (per minute)** |
| **1** |  |  |
| **2** |  |  |
| **3** |  |  |
| **4** |  |  |
| **5** |  |  |
| 6 |  |  |
| 7 |  |  |
| 8 |  |  |

**Results and Analysis (Do this part individually without your partner.)**

1. Complete the table by calculating the pulse rate per minute.
2. Make a line graph for this data. (Only graph the Pulse Rate per Minute.) Use the average resting pulse rate from Table A for the zero minute line on the graph. Be sure to give your graph a title and label each axis.
3. What happened to the pulse rate of the experimental student immediately after running? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Why does this happen? (Be specific) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. What was the experimental student’s recovery time? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. If the experimental student would have run for 5 minutes, what do you think would have happened to their recovery time? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Why? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. How do you think a person’s fitness level would affect their recovery time?

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Why? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_