**Circulatory System Lab – Heart Beat, Health Beat**

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Class: \_\_\_\_**

**Problem:**

How does physical activity affect your pulse rate?

**Hypothesis:**

If I increase my physical activity, then \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, because

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Materials:**

* Stop watch

**Procedure:**

1. Predict how your pulse rate will change as you go from resting to being active, and then back to resting again. Use the data table provided, to make your predictions first.
2. Next, locate your pulse by placing the index and middle finger of one hand on your other wrist at the base of your thumb. Move the two fingers slightly until you feel your pulse.
3. Working with a partner, begin by determining your resting pulse rate. Count the number of beats in your pulse for exactly one minute, while your partner times you. Record the number in the data table.
4. Walk in place for one minute while your partner times you. Stop and immediately take your pulse for one minute. Record the number in your data table.
5. Run in place for one minute. Stop and immediately take your pulse for one minute. Record the number in your data table.
6. Sit down immediately, and have your partner time you as you rest for one minute. Stop and immediately take your pulse for one minute. Record the number in your data table.
7. Have your partner time you as you rest for three minutes. Stop and immediately take your pulse for one minute. Record the number in your data table.

**Data:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Activity** | **Pulse Rate (beats per minute) Prediction** | **Actual Pulse Rate**  **(beats per minute)** | |
|  | **You** | **You** | **Partner** |
| **Resting** |  |  | |
| **Walking** |  |  | |
| **Running** |  |  | |
| **(1 min) Resting After Exercise** |  |  | |
| **(3 min) Resting After Exercise** |  |  | |

**Data Analysis/Conclusion:**

1. Create a bar graph (in the space below – neat and colorful) of your actual pulse rate under the different conditions you tested (make sure to label ALL components of a graph). The graph should be of your data.

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1. What can you conclude about the relationship between physical activity and a person’s pulse rate?
2. What happens to the pulse rate when the physical activity has stopped?
3. What can you infer about the heartbeat when the pulse rate increases?
4. Do you think the pulse measurements you make are completely accurate? Why or why not? How could you improve the accuracy of your measurements?