

EXPERIMENT: YOUR ADAPTIVE HEART

In order to supply your body with the needed amount of oxygen, your heart rate either increases or decreases. Your heart is constantly adjusting itself without you knowing it. In this activity, you will record and chart your heart rate during a variety of activities. You will need a stopwatch or a clock with a second hand to gauge your pulse.

Heart Rate (Beats/ Minute)

Step 1: Lie down in a comfortable position for 3-5 minutes. After the time has elapsed, count the number of times your heart beats in 6 seconds. Multiply times ten to get the number of beats per minute. To find your pulse, place your index and middle fingers under your jawline on either side of your larynx. Do not use your thumb. Record your heart rate.

Step 2: Sit in a chair for 3-4 minutes, then count the number of times your heart beats in 6 seconds. Multiply times ten to get the number of beats per minute. Record your heart rate.

Step 3: Stand for 3-4 minutes, then count the number of times your heart beats in 6 seconds. Multiply times ten to get the number of beats per minute. Record your heart rate.

Step 4: Run in place for 60 seconds, then count the number of times your heart beats in 6 seconds. Multiply times ten to get the number of beats per minute. Record your heart rate.

Step 5: Do jumping jacks in place for 60 seconds, then count the number of times your heart beats in 6 seconds. Multiply times ten to get the number of beats per minute. Record your heart rate.

Step 6: Sit in a chair for 60 seconds, then count the number of times your heart beats in 6 seconds. Multiply times ten to get the number of beats per minute. Record your heart rate.

Step 7: Lie down for 60 seconds, then count the number of times your heart beats in 6 seconds. Multiply times ten to get the number of beats per minute. Record your heart rate.

Answer the following questions:

According to your data, what kind of activities increased your heart rate?

According to what you have learned about the circulatory and respiratory systems, explain how and why your heart changed its rate.