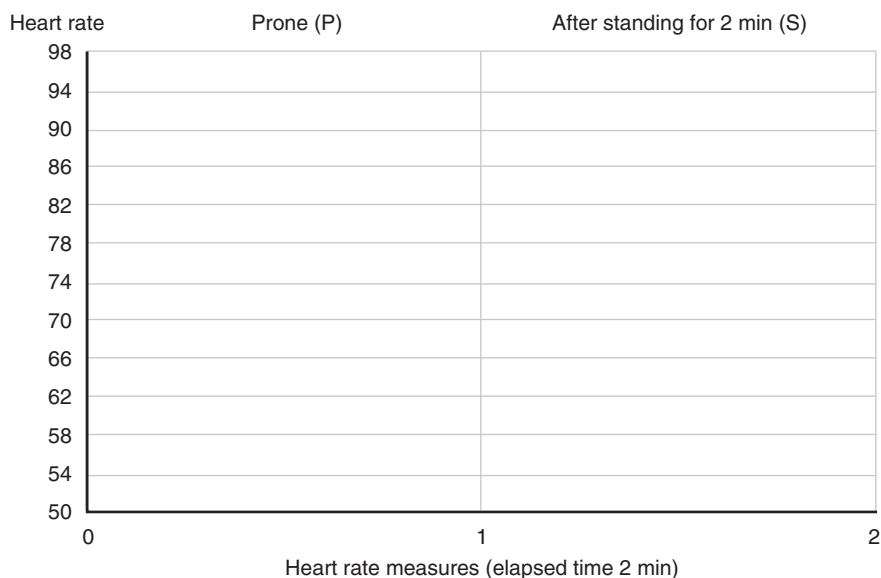


Name: \_\_\_\_\_ Date: \_\_\_\_\_

Delta heart rate is a measure of your heart rate response to a change in body position, such as from a prone position (i.e., lying down) to a standing position. Have students partner off to take this measure. One partner records the heart rate numbers as their partner does the test, and then they switch positions and repeat.

### Instructions

1. Lie down in a comfortable position.
2. Relax for two minutes.
3. Along with a partner, look at your heart rate every 30 seconds for two minutes. Remember the lowest number on the monitor (P).
4. Stand up slowly.
5. Watch your heart rate increase as you stand and then decrease or level off.
6. Stay stationary for two minutes. Record that heart rate in the (S) space provided.
7. Enter P and S values:  
Heart rate lying down: \_\_\_\_\_ bpm (P)  
Heart rate after standing for two minutes: \_\_\_\_\_ bpm (S)
8. Graph P and S heart rates by marking an asterisk (\*) at the correct heart rate values on the x (horizontal) axis in the following figure. Connect the asterisks with solid lines.



9. Calculate your delta heart rate ( $S - P$ ).

$$\frac{\text{bpm}}{(S)} - \frac{\text{bpm}}{(P)} = \frac{\text{bpm}}{(\text{Delta heart rate})}$$

#### DELTA HEART RATE SCALE

Change (bpm) (stress level)	Description	Scale
0-10: Very low	This is excellent. It is an indicator, but not a guarantee, that your emotional and physical stress levels are low.	Everything seems fine. Fitness train according to plan.
11-20: Normal	This is the norm. You don't need to make any major changes in your life or your training, but lower delta is always better than higher.	Observe. This range is the norm, but you should pay attention to it.
21-30: High	This is the yellow alert signal. Be aware. Stop and look at the tension and issues in your life that might be causing stress and consider actions you might take to lower your stress levels.	Be aware. A delta heart rate in this range could be caused by one of the following: <ul style="list-style-type: none"><li>• You didn't administer the test correctly.</li><li>• You are under stress.</li><li>• Your immune system is compromised.</li><li>• You are taking medication.</li></ul>
>30: Very high	This is serious; your physiology is at risk.	Red flag. Stop your fitness training program and take one or two days off until your delta heart rate is under 30.

### Questions

What might a higher or lower delta heart rate say about your heart's current response to physical demands? Justify your answer.

What can you do to manage physical and emotional stress and, thus, lower your delta heart rate?

Can you think of other changes in body position that can be used to measure delta (orthostatic) change?

What is biofeedback, and how can you use a heart rate monitor to assess your heart's health?

What else can a heart rate monitor be used for?