

## PERCEIVED EXERTION VERSUS HEART RATE EXERTION

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Ambient heart rate: \_\_\_\_\_

Maximal heart rate (MHR): \_\_\_\_\_

Rating of perceived exertion (RPE) is a scale used to measure exercise intensity, with 1 being the lowest value (i.e., easiest) and 10 being the highest (i.e., hardest). This scale is sometimes used instead of a heart rate monitor to describe how hard you are exercising or have exercised. There are usually three levels of exertion: easy, moderate, and hard. These correspond to the three common levels of intensity: low, moderate, and high.

The purpose of this lesson is to show you how your heart rate values compare with your perception of how hard you are training.

### ***Instructions***

1. Select a partner and determine who will record and who will exercise during the first round.
2. The partner who is exercising first puts on the chest strap; the recording partner puts on the receiver. Remember to maintain a close distance (3 feet, or about 1 meter, or less) to each other during the exercise phase so the monitor will get a clear reading. If you are using a projection system for heart rate monitoring, you can both wear monitors, but you will still take turns recording each other's heart rate numbers and perceptions.
3. Review the RPE scale so that you are familiar with the 10 exertion levels. Also, note your MHR at the top of the page. As your exercise intensity nears your MHR, your RPE will increase as well. An RPE of 10 would be equivalent to MHR.
4. Warm up adequately (5 to 10 minutes).
5. Begin the workout with five minutes of low-intensity exercise.
6. At the end of five minutes, estimate your RPE and your heart rate. Have your partner record both numbers and the actual heart rate in the following table. When you are first using RPE, use a number (1 through 10), not the descriptive phrase.
7. Begin exercising at a moderate intensity for five minutes. Repeat step 6.
8. Begin the third and final phase by exercising at a high intensity for five minutes. Repeat step 6.
9. Switch roles (i.e., your partner exercises and you record).

## RPE and Heart Rate Records

Record your partner's RPE (B) and actual heart rate (E) in the following table. After you both finish the exercise portion, finish filling out the tables. Compare your estimates with the actual measures from your monitor.

**COMPARING AND CONTRASTING RATINGS OF PERCEIVED EXERTION AND HEART RATE DATA**

A	B	C	D	E	F	G
Exercise segment 1,2, or 3	RPE number (1 to 10)	RPE feeling (easy to maximal)	Estimated heart rate	Actual heart rate	Difference between columns D and E	Heart zone this segment

## Questions

How accurate was RPE when compared with actual exercise intensity?

How accurate was estimated heart rate when compared with actual heart rate?

Can you put your heart rate into the following table based on your individual estimate of your heart rate and your knowledge of RPE and heart zones?

**DESCRIPTION OF RPE BY HEART ZONE ACTIVITY**

Time (min)	RPE	Zone	Feeling description	Heart rate (bpm)
	1		Relaxed	
	2		Very little effort	
	3		Very comfortable	
0-5	4	1	Comfortable, could keep this up for a long time	
5-7	5	2	Somewhat less comfortable	
7-9	6	3	More challenging	
9-10	7	4	Tough, feels very heavy, must push self	
10-11	8	4	More challenging, breathing deeper and more rapidly	
11-12	9	5	Uncomfortable, breathing deeply and rapidly	
12-13	10	5	Unable to continue for more than 1 min	

Adapted, by permission, from C. Foster.

From D. Swaim, 2013, *Heart education* (Champaign, IL: Human Kinetics).