FLINN SCIENTIFIC

Name_____

Investigating Heart Rate Worksheet

Data Table

	Resting		Physical Exercise		Physical Exercise with Weights	
	Number of beats in 20 seconds	Beats per minute	Number of beats in 20 seconds	Beats per minute	Number of beats in 20 seconds	Beats per minute
Volunteer 1						
Volunteer 2						
Volunteer 3						
Average						

1. Calculate the average resting heart rate and the heart rates after physical exercise and after physical exercise with weights for the three volunteers.

2. Determine the maximum heart rate for the three volunteers based on their average age, and calculate the target heart rate range. How did the average heart rate of the volunteers after physical exercise compare with the target heart rate for a person of that age?

3. Determine the change in *average* heart rate for the three individuals after regular physical exercise compared to after physical exercise with weights.

4. What does the average change in heart rate obtained in question 3 indicate about the amount of work the heart must do as weight is added? What is the implication of this result for the effect of body weight on cardiac health?

5. Weight lifting can cause a person's weight to increase by building muscle. a) How does building muscle improve cardiac health—be specific in terms of oxygen delivery and heart rate. b) What other benefits does building muscle have on the body as a whole?