

# How Fast Can You Recover?

## Student Project Page

Do you wonder what kind of cardiovascular shape you are in? A very effective way to measure your cardiovascular condition is to measure how quickly you recover after exercise. How can you measure this recovery? The same way elite athletes measure it! If you take your pulse immediately before beginning your exercise and then again repeatedly at specific timepoints after you stop exercising, you can measure how fast your pulse returns to its normal resting rate. You usually check it every minute or so for ten minutes while you are at rest. For our purposes, the resting rate will be your pulse right before you began exercising. When you take your pulse, you will count the heartbeats for 15 seconds, and then multiply the beats by four to get the beats per minute. For this project, you will take your initial pulse and then perform an intense exercise routine for 10 minutes. (Your teacher will tell you what to do for exercise.) Then you will sit still for 10 minutes, taking your pulse at the specified time intervals, recording your data on the collection sheet. You will calculate the beats/minute and record these values on your sheet as well. After transferring your data to the *Microsoft Excel* spreadsheet (but using spreadsheet formulas to calculate the beats/minute) you will create a chart to show your cardiovascular recovery.

### **Your *Microsoft Excel* spreadsheet must include:**

1. Your pulse rate before beginning exercise.
2. Your pulse rate immediately after finishing exercise (timepoint 0) and then again at 1, 2, 3, 4, 5, 7, and 10 minutes.
3. Formulas to convert the 15 second measurements to 1 minute measurements.
4. A chart showing your beats/minute timepoints changing over time.
5. At least three pictures that are related to the topic. These can come from the multimedia CD or another source of your choice.
6. An explanation of why your pulse sped up and slowed down, and an explanation of how your formulas convert your 15 second measurements to beats/minute.

### **Resources**

Science or other reference books with cardiovascular system data and exercise informational Web sites linked from the pages at

**<http://www.teachercreated.com/techtools>**

More Internet resources can be found by using a search engine. Three possible choices are *Yahooligans*, *Lycoszone*, and *Ask JeevesKids*.

Keywords for this lesson might include: heart rate, pulse, cardiovascular, cardiovascular exercise, and resting pulse.