Teacher Information

6th Grade Unit. Activity 6: “Pump it Up”

Suggested time period:
One-two 45-minute periods or 90 minute block

Concepts and skills to review with students before activity:
• Heart anatomy
• Starting up the computer, opening applications, and using the mouse.

Prerequisite math skills:
• Finding the mean or average
• Addition and subtraction

Math activities that correlate with this activity:
• Finding the Mean – see supplemental activities
• Calculating the Mean – see supplemental activities

Materials:
Computers
USB Links
Heart rate Sensors
Saline solution

Optional extensions and substitutions:
• Have students test different durations and intensities of exercise to see how it affects their heart rate.
• Have students research how to calculate their target exercise heart rate and calculate theirs.
• Have students calculate their recovery rate – how long it takes for their heart rate to return to normal after exercise.
• Work with a physical education teacher to have students design an exercise program to increase their fitness. Test recovery rate after one month on the fitness program to see if their recovery rate is better.

Learning goals:
After completing this exercise students should be able to:
• Participate in a scientific experiment led by the teacher and have modeled for them the process skills required at each step.
• Understand that heart rate increases with exercise because of the need to pump more blood to the active muscles.