

Finger Pulse Oximeter Lesson Plan

Subject Area: Physical Education

Lesson Title: Introduction to Finger Pulse Oximeters and Cardiovascular Fitness

Grade Level: 5th Grade

Time Required: 90 minutes (Three 30 minute lessons)

Engineering Connection: Application of sensor technology to physical education and lifelong fitness.

Educational Standards:

- **PE Standard 2:** Demonstrates understanding of movement concepts, principles, strategies and tactics as they apply to the learning and performance of physical activities.
- **PE Standard 4:** Achieves and maintains a health-enhancing level of physical fitness.

Learning Objectives:

- Students know that a finger pulse oximeter measures the heart rate and blood oxygen level.
- Students know how to use and read a finger pulse oximeter.
- Students know and can communicate how the muscles and cardiovascular system responds to exercise.
- Students understand that the blood oxygen level may decrease during exercise as the muscles consume oxygen.
- Students understand that the heart rate increases during exercise as the heart must work harder to move oxygen from the lungs to the muscles.
- Students have an idea about what homeostasis is all about.

Materials

- Finger Pulse Oximeter
- Pencil
- Table Sheet
- Chart Sheet
- Pretest
- Posttest

Procedure

1. Day 1
 - a. Administer the pretest.
 - b. Discuss how the body responds to exercise and the resting, activity, and recovery heart rate and oxygen level.
 - c. Explain what a finger pulse oximeter measures and how it measures it.
 - d. Demonstrate its use.
 - e. Students practice using the finger pulse oximeters.
2. Day 2
 - a. Students will collect data on their resting, activity, and recovery heart rate and oxygen levels into tables.
3. Day 3
 - a. Students chart their data.
 - b. Students will review their data and discuss what it means.
 - c. Compare students data charts with each other.

d. Administer the Posttest

Assessments: Pretest and Posttest

Modifications/Extensions:

- Provide and/or use more than one finger pulse oximeter.