



Getting 4th Graders Excited About the Cardiovascular System

Patricia A. Halpin, Ph.D.

University of New Hampshire Manchester
Biological Sciences Department, Manchester NH



Day 1-Presentation Topics

- What is a physiologist, education, careers, how the cardiovascular and respiratory systems work together, blood pressure and the scientific method.

Hypothesis: Heart rate, breathing rate and blood pressure increase with exercise.

- The students measured their resting rates.

Day 2- Perform Experiment and Collect Data

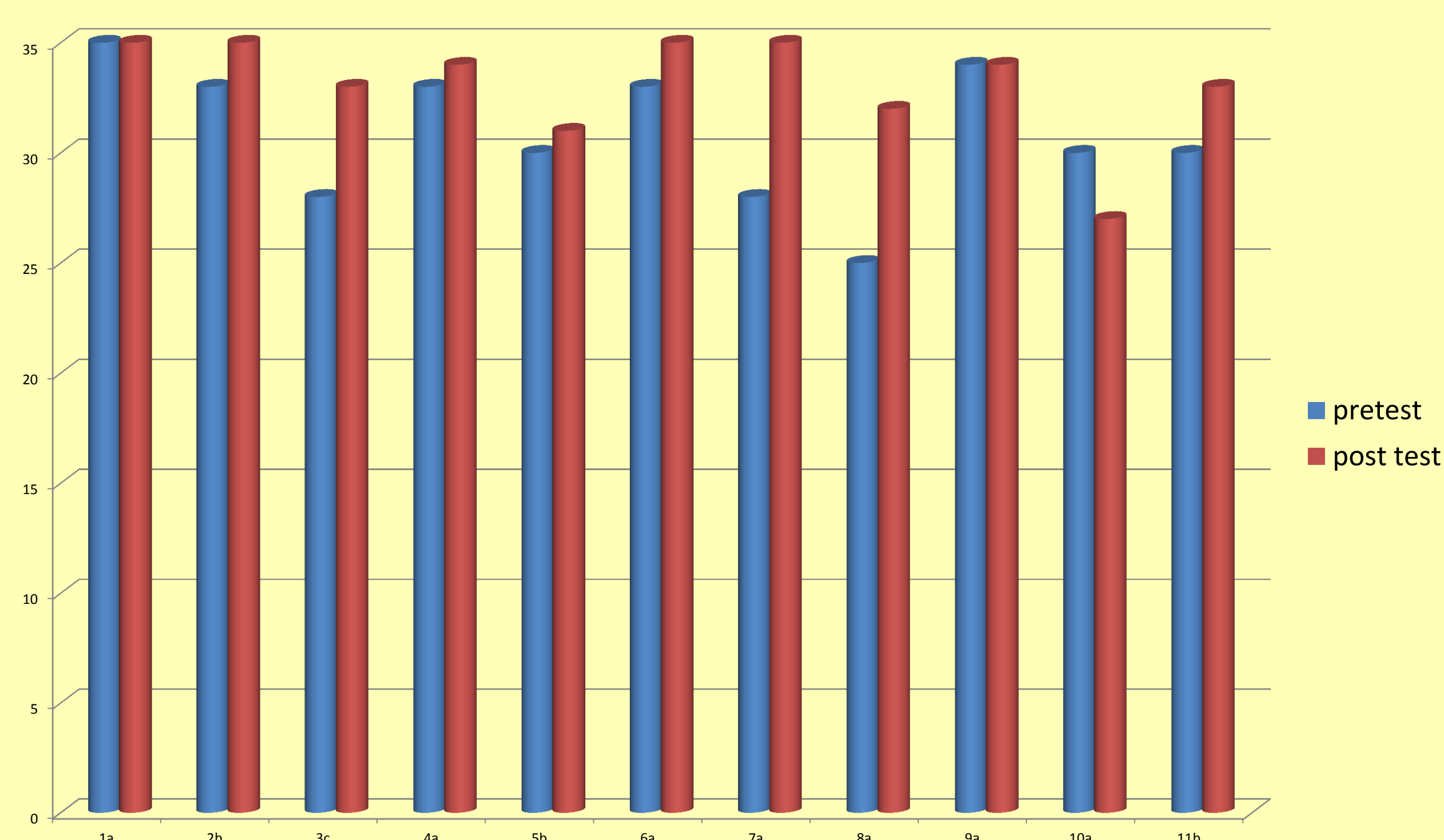
- The class worked in pairs, one exercised for five minutes while the other cheered them on
- At the end of exercise, the exercising student took their own breathing rate while their partner measured their heart rate and blood pressure with monitor. They then switched roles.

Day 3- Data Analysis with 4th grade math

The histograms were projected to the class.

- Results were discussed as a group. The mean, mode, median and range were used to analyze data.
- The students determined their hypothesis was proven.
- Lab reports were passed in for a grade.
- Post tests were taken to determine if students gained knowledge.

Learning outcomes measured
Quantitative Pretest vs. Post test



Very happy students after a PhUn week.

Post test provided some Qualitative data

Most common answers give n to the following questions

*Why do we need math to help explain (analyze) our data?
To prove that our hypothesis was right and to convince others.*

What did you like most about PhUn week?

Exercising outside and using the heart rate blood pressure monitors.