Performing an Experiment on the Cardiovascular System is PhUn

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PhUn = Physiology Understanding

• National initiative by American Physiological Society to bring physiologists into the K-12 classroom

• Started in 2005

• First week in November

• Through this real-life, face-to-face encounter with physiologists, students learn about how their bodies function and how scientific discoveries are made.
Planning

Pick a grade level

Choose a school
Planning

August
Make contact with classroom teacher directly

September
Set dates for one-three visits 1-1.5 h each

October
Coordinate activities/experiments with teacher

November
Go into school and perform activities/experiment
Day 1

- Career of physiologist described
- Discussed cardiovascular function and health
- Introduced concept of blood pressure
- Scientific Method reviewed
- Hypothesis designed

Wear your lab coat.
Resting heart rate, breathing rate and blood pressure taken

BP-HR monitors purchased with funds from HOPES grant
Experimental Design

Hypothesis-
Exercise will increase
heart rate (HR), breathing rate (BR), blood pressure (BP)

Materials and Methods-
Take resting HR BR BP.
Work in pairs, one partner exercises 5’
Takes post exercise HR BR BP.
Switch partners
Day 2
While blood pressure and heart rate are being taken by monitors, breathing rate is counted. Teachers collect all data.
Day 3

Results
Analyze Data with 4\textsuperscript{th} grade math
  Mean, median, mode, range
Conclusions

Did We Prove Our Hypothesis?

Complete lab reports and pass them in
Version #2

One Classroom Visit for One hour
PhUn on Summer Vacation
Career of physiologist described
Discussed cardiovascular function and health
Scientific Method reviewed
Hypothesis- Exercise increases HR
Took Heart Rate Before Exercise
No Equipment Used
Half of the class exercised while half waited and watched.
Benefits of Bringing Family
Results and Conclusions

Heart Rate Post Exercise

Discussed Results and Conclusions
Questions?