



The Effects of Exercise on Heart Rate and Blood Pressure Were Tested by Second Graders

Patricia A. Halpin
Department of Biological Sciences
University of New Hampshire at Manchester



Objective

- To perform a physiology experiment with second graders testing the effect of exercise on heart rate and blood pressure.

Methods



- The physiologist described the job of a physiologist
- Background information on the cardiovascular system was presented.
- Students set out to prove their hypothesis; exercise increases heart rate and blood pressure.
- The teachers paired the students.
- Resting levels of heart rate and blood pressure were measured with monitors.
- Snack time.
- On the playground one member of each pair ran laps for five minutes while the other cheered them on.
- When exercised was completed heart rate and blood pressure were measured.
- The exercise was repeated with the other member of the pair.
- Results were recorded and discussed with the class.



Snack time is very important in second grade.



Students run for five minutes on the school playground.

Results

- For the majority of students heart rate and blood pressure increased with exercise.
- Student pace during exercise varied greatly with some walking after only 30 seconds.
- Students had a difficult time putting on the monitor and securing it tightly.
- Several had to attempt to take readings more than once which led to a lower reading.



Students had a PhUn time and especially loved their bags and hearts.

Conclusions

- Students proved their hypothesis and learned about the benefits of exercise
- Limit exercise to three laps around playground
- Run with the students so they exercise at one pace
- Do not forget to schedule in snack time in the middle of session
- Have PhUn week earlier in the year so winter coats are not interfering with heart rate blood pressure monitors



Funded by an 2011 ASBMB Science Technology Engineering and Mathematics (STEM) Seed Grant.