Lab 8-4: Power

NAME:

Purpose: To determine your horsepower as you do work against gravity running up stairs.

Procedure:

- 1. Calculate your mass in kg from your weight in pounds. Show your work in the table, and record your answer in the table below. Use the conversion factor 1 lb = 0.454 kg.
- 2. In the stairwell, measure the height from the first floor to the second floor, and record this in the answer column of row 2.
- 3. Time how long it takes you to go from the first floor to the second floor and record this in the answer column of row 3.
- 4. Complete each row of the data table below showing your work in the middle column and the answer in the answer column.

Data & Calculations:

		Show Work Here	Answer
1.	Your mass (kg)		
2.	Height change in climbing (m)		4.13 m
3.	Time to climb stairs (s)		
4.	Potential Energy gained (J)		
5.	Power you generated (W)		
6.	Horsepower (750 W = I hp)		

*** Do the data and calculations individually ***

Questions:

- 1. What was your horsepower? How long do you think you could do that amount of horsepower (a couple minutes, a few hours, all day, etc.)
- 2. What was the biggest horsepower generated in the class?
- 3. What is meant by the term "work?"

Lab 8-4: Power

Name:_____

- 4. What is meant by the term "power?"
- 5. Do the calculations depend on you hitting every step or could you do two steps at once?
- 6. You seemingly gave yourself potential energy. Where did this energy come from?