

Physics

Human Power Output

Name _____

You and a friend will need a stopwatch, a ruler, and some stairs. Take your weight in pounds, and divide by 2.2 to get your mass in Kg, and have someone clock you in four trials up the stairs. Record the change in height of the stairs. Take turns timing and running up the stairs. **The data on this sheet should be your own personal power output.**

Change in height of stairs = _____ +/- _____

Your Mass = (in kg) _____ +/- _____

Times for running

Best guess time and uncertainty: _____ +/- _____

1. Calculate your power output. Use brute force to find the lower and upper possible limits your power calculations could have. Show your work for all three calculations here:

<p>Work:</p> <p style="text-align: center;">Lower Limit</p> <p style="text-align: center;">_____</p>	<p>Work:</p> <p style="text-align: center;">Best Guess</p> <p style="text-align: center;">_____</p>	<p>Work:</p> <p style="text-align: center;">Upper Limit</p> <p style="text-align: center;">_____</p>
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2. If you ran quickly, chances are your calculations are close to if not greater than 1 hp. (745.7 W) How is it possible for a human to put out this much power?