

NAME \_\_\_\_\_  
PHYSICS A/R - PERIOD \_\_\_\_\_DATE \_\_\_\_\_  
MR. LEACOCK**LABORATORY 17 -- Power**(from *Modern Physics Laboratory Manual* -- Trinklein)**Objective**

To better understand the watt as a unit of power and of the relationship between the watt and horsepower.

**Procedure**

1. Locate a staircase. Measure the height of one step on the staircase. Multiply by the number of steps on the staircase and determine the height of the staircase.
2. Have each student run up the stairs. They should grasp the rail for extra safety as

well as extra power. Time the student as they run up the stairs from the moment both feet leave the ground floor to the moment both feet are on the top stair. Record the times. Repeat this for all students.

3. Find the average time of each student.
4. Compute the power in watts for each student.
5. Compute the horsepower of each student (1 horsepower = 746 watts).

**Data**

On reverse side of this lab sheet.

**Questions**

1. Describe the major difference between the horsepower calculated for yourself and an engine which would put out the same amount of horsepower.

2. List several possible sources of error.

3. How does the actual distance you moved on the staircase compare to the distance you used in the power equation.



