



FLORIDA INDUSTRY

Discover how some of Florida's industries were impacted by the natural resources of our state!



Measuring Horsepower: How Many Horses are You Worth?

1. Hypothesis

a. How much horsepower (HP) will you be able to produce? _____ HP

2. Force (Weight)

a. Student weight in pounds (lb.):

_____ lbs.

b. Student weight in newtons (N):

_____ lbs. x 4.45 = _____ N

3. Distance (Height)

a. Height of one stair in centimeters (cm):

_____ cm

b. Height of one stair in meters (m):

_____ cm ÷ 100 = _____ m

c. Number of stairs:

_____ stairs

d. Total height of stairs in meters (m):

Height of one stair in meters x number of stairs = total height of stairs

_____ m x _____ = _____ m

4. Work

a. Total amount of work in joules (J)

Weight in newtons x height of stairs in meters = work in joules

_____ N x _____ m = _____ J

5. Time

a. Time from the bottom of the stairs to the top in seconds

Trial 1. _____

Trial 2. _____

Trial 3. _____

Trial 4. _____

6. Power

a. Power in watts (W)

Work in joules ÷ time in seconds = power in watts

Trial 1. _____ J ÷ _____ secs = _____ W

Trial 2. _____ J ÷ _____ secs = _____ W

Trial 3. _____ J ÷ _____ secs = _____ W

Trial 4. _____ J ÷ _____ secs = _____ W

b. Power in horsepower (HP)

Power in watts ÷ 746 = power in horsepower

Trial 1. _____ W ÷ 746 = _____ HP

Trial 2. _____ W ÷ 746 = _____ HP

Trial 3. _____ W ÷ 746 = _____ HP

Trial 4. _____ W ÷ 746 = _____ HP