

Objectives

- Find the power of a student when doing pushups.

Materials

- Stopwatch
- Meter stick

Procedure

1. Choose a group member to do pushups. They need to know their weight. Convert their weight to mass in kg. $m =$ _____ kg
2. A person lifts approximately 65% of their mass when doing a pushup. How much mass will your group member be lifting? $m =$ _____ kg
3. Measure the height of their shoulders at the lowest part of a pushup. $h_1 =$ _____ m
4. Measure the height of their shoulders at the highest part of a pushup. $h_2 =$ _____ m
5. What distance do the shoulders move during a pushup (just going up)? $x =$ _____ m
6. How much work is done for one pushup? _____ J
7. How much work is done for 10 pushups? _____ J
8. Time how long it takes your group member to do 10 pushups. $t =$ _____ s
9. Calculate the power of doing 10 pushups by your group member. $P =$ _____ W
10. Compare your result with other groups.