

Energy/Work vs. Power

3 students will lift 3 textbooks over their heads 10 times, but in different times. Record all the following information:

Student	Distance (m)	Mass (kg)	Force (N)	Work (Energy) (J)	Time (s)	Power (W)
Slow						
Medium						
Fast						

Looking at the data above:

- 1) Which student did the most work?
- 2) Which student used the most power?
- 3) What is the difference between work (energy) and power?

One calorie is the amount of energy required to raise the temperature of one milliliter of water 1 degree Celsius. When you eat, you are actually eating chemical energy. This energy is then converted to kinetic energy of your moving muscles. The energy in the food you eat is measured in Calories (kilocalories), which is equal to 1000 calories.

One glazed donut has 270 Calories.

1. Convert this to calories:
2. Convert this to joules:
3. How many donuts were “burned up” by each student while they were lifting books.
4. Is there any advantage to doing an activity fast to burn calories?