Name(s)	Project Number
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Project Title

Green Your PC: How Much Power Do the Major Parts of a Computer Consume?

Abstract

Objectives/Goals
The objective of my investigation was to find how much power the major parts and programs of a computer consume and how you can configure your PC so that it conserves power.

Methods/Materials
All the needed materials for my experiment are: One (1) P3 International P4400 Kill A Watt Electricity Usage Monitor, One (1) Gateway computer, One (1) power strip, One (1) wall outlet, One (1) stopwatch, One (1) HP Officejet Pro 8500 Wireless Printer, One (1) AT&T 2Wire modem, One (1) video game (Diner Dash), One (1) DVD (Transformers 2), One (1) Microsoft Word 2007 program, and One (1) Notebook. First, plug the computer into the power strip, which is then plugged into the Kill A Watt, and finally plug the Kill A Watt into a wall outlet. Second, measure and record peak power and steady state power in watts for all variables. Finally, measure and record the amount of time taken for sleep, hibernate, and shutdown to recover back to start page.

Results
The results indicates that the computer and monitor consumes the most amount of peak power and shutdown consumes the least amount of peak power. It also indicates that test page print consumes the most amount of steady state power and shutdown consumes the least amount of steady state power. Finally, it indicates that sleep takes the least amount of time to recover back to start page (6 seconds) and shutdown takes the most amount of time (57 seconds).
The average amount of peak power/ steady state power consumed: computer and monitor (178.6) (116.8), computer (81) (81), screen saver (111) (111), brightness (minimum) (108.3) (108.3), brightness (maximum) (111.6) (111.6), disk defragmenter (156.4) (117.5), Word 2007 (162.2) (117.4), video game (Diner Dash) (174.2) (123.2), DVD (Transformers 2) (175.8) (132.4), printer (169.2) (131.5), test page print (170.6) (142.2), modem (145.2) (121.8), internet (169.4) (124.1), sleep (3.2) (3.2), hibernate (3.17) (3.17), shut down (2) (2).

Conclusions/Discussion
The different programs and parts do take up different amounts of power. People should shut down computers when they are not using them and put them in hibernate if they are going to use them later in the day. You can also change the brightness on your computer and use the screen saver. By doing these things and using certain parts and programs of the computer less you can lower your energy bill and help conserve power.

Summary Statement

I am investigating how much power various parts and programs of a computer consume.

Help Received

Mother provided transportation to needed destinations, putting board together, and buying necessary materials, Father helped type the report and take pictures.