



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Maxwell P. Bunker	Project Number J0205
Project Title How Cool Is Your Computer?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals Heat has a negative effect on a computers performance and life. The objective of my testing was to find the most effective cooling system, thus increasing the performance and life of the computer.</p> <p>Methods/Materials The computer I used was a Dell GX1 Pentium III. I ran 3DMARK PRO, a benchmark test that stresses the computer by doing #looping# tests, the effect of these tests work the computer components and increase the temperature. Using a digital thermometer I took the temperature at four different component locations in the computer: 1. The Hard Drive; 2. CPU chip; 3. Video Card; 4. The air temperature inside the PC case. The different cooling systems I used are: 1. 2COOLPC (a product that redirects air inside the case); 2. System Blower(blow outside air into case) ; 3. Cool Master (a heatsink/fan for the cpu); 4. Hard Drive Cooler (for the hard drive); 5. Original Components; 6. Original Components without the air shroud; 7. Combination of all the cooling systems. After each test I let the computer return to the normal room temperature (70-73'). I repeated the test 3 times to insure accuracy.</p> <p>Results The results were pretty definite. The product, 2CoolPC, was the overall individual winner. It had the lowest temperatures recorded for 3 of the 4 components. It was beaten only by the 'hard drive cooler' product at lowering the temperature of the hard drive, and then by only .2 degrees. The combination of using all the cooling products 2CoolPC, Hard drive cooler, and system blower lowered temperatures marinally better than using the 2CoolPC product alone.</p> <p>Conclusions/Discussion My results showed that the single best cooling system was the 2COOLPC-cooling product. The ideal temperature inside your PC is roughly 5 degrees higher than the ambient room temperature. If the temperature in your case exceeds 110 degrees Fahrenheit, then your PC could be in trouble. That#s because for every 18-degree increase above 110 degrees, the component life of your PC is reduced by half! Once a month or so you should clean your case fans (dust is an enemy too). Now you know how cool my PC is, what about yours?</p>	
Summary Statement I tested different cooling systems to see which one would have the greatest effect on a computers' temperature	
Help Received Dad helped get fans and software on internet.	