

Safety in Numbers: Thermometers  
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It appears that any hiker should be able to tell whether he or she is warm enough: do you feel okay? But appearances can be deceiving.

**A Cold, Wet Day in the Adirondacks**

It was August of 2002, and I started my walk an hour before sunup. The forecast was for a cloudy but rainless day. I went out to Couchsachraga in mist, headed up Panther in a drizzle, and my altimeter said that I was about 100 vertical feet below the 4606-foot summit of Santanoni Peak in light rain. I felt just fine charging uphill in my shorts and t-shirt, soaked to the bone: I thought I was plenty warm.

But rules are rules, and I “stop before the top”, so I glanced down at the thermometer on my backpack strap. I was shocked to see that this (trusted and accurate) device said that the temperature was 38 degrees. But I believed it. I therefore put on a waterproof-breathable jacket, and started walking again. I could feel the heat building up immediately. The warmth that was luscious going uphill became necessary going downhill, when my body was generating far less heat. Even though my very light t-shirt had been soaking wet, my body was hot enough to push that moisture out on the long, mainly downhill walk. I was almost dry by the time I got back to Times Square, and warm the whole way out to the trailhead.

**My Thermometers**

My minivan has a built-in thermometer. When I press the right button, the outside temperature is displayed on an information panel. And I’m pretty sure that it is correct, because whenever I drive past a bank thermometer, it is usually within a degree or two. I watch that thermometer as I’m driving to a trailhead. I usually watch it drop as I gain altitude, but a couple of times, it has alerted me to a thermal inversion in which the temperature rises as I head up.

A suction cup keeps a one-dollar thermometer on a rear window where I can see it when I sleep in the back of my van. On winter days, I keep the windows closed and the van warm until I’m ready to get into my sleeping bag. I then open all windows an inch or so (“summer or winter, vent your tent”), and hop into the warm bag. I then watch the inside temperature quickly drop to the outside temperature. When I get up in the morning, I have a pretty good idea of the outside temperature, and that guess is verified when I turn my car on to close the windows and warm it up before I get dressed.

Before I leave on a hike, I check the outside temperature to see how I’ll dress for the day. Especially coming off a warm autumn, 20 degrees above zero and 20 degrees below can both feel cold. But one is a nuisance and the other is life threatening.

I carry an inch-long thermometer on my pack’s shoulder strap, which weighs about half an ounce (including its 3/8-inch compass). I check it throughout the day, and when I “stop before the top”. I once found a bunch of the devices on sale for a couple bucks

each, so I lined them all up, a couple inches apart. Most of the thermometers were within a degree or two of each other at around 70 degrees, but I set aside one that indicated 98 degrees and another that indicated 47 degrees. Most of the compasses were aligned, but I tossed the one that thought north was south. I walked out of the store with a handful of inexpensive but accurate devices.

When I'm planning to stay out overnight, my bedroom kit contains a tiny little thermometer that will help me to decide how to dress the next morning. Every so often I check my various thermometers against each other to ensure that they all remain accurate.

There is safety in the numbers that they give me.

### **An Altimeter / Barometer / Thermometer Watch**

My watch has all three functions. The altimeter and the barometer are indispensable. The thermometer gives me a precise reading of the temperature of the air surrounding it. As I sit in my office typing this sentence, the watch indicates the temperature as 87.2 degrees. A plastic thermometer on my wall says that the office temperature is 73 degrees, and my core body temperature usually runs pretty close to 98.6 degrees, so I guess that the air around my watch is pretty close to the middle. As such, this temperature is almost always useless. But sometimes it tells an interesting story.

### **A Fancy Thermometer**

Every now and then, just for grins, I carry a 2.5-ounce "weather meter" that rapidly gives very accurate temperatures precise to a tenth of a degree. It can be fascinating to see how the temperature drops as I hold it right next to my body, then inside my sleeping bag, then right outside the bag, then higher and lower in the tent, and then outside the tent. I used that device on June 25, 2003, at 11,200 feet at Ingraham Flats on Mount Rainier. Our team was taking a break from practicing rappelling, ice climbing and other mountaineering skills. What would you say the temperature looks like for this group?



My teammates look comfy, and I felt warm and cozy when I took the picture. I was shocked when I looked down at my combination watch and saw that it said that the temperature was 107°F! So I got out my weather meter, and was even more shocked when it indicated that the temperature was 36°F. Which one was right?

I think that they were both correct. The fancy meter read the temperature of the cold air blowing down the mountain onto us. But we were in direct sunlight, and also took reflections of that light off the bowl of snow surrounding us, so my dark watch and dark blue shirt were absorbing all of that radiated heat. At a subjective level, I bet that most of us felt like it was a really sunny 70-degree day. Always keep in mind precisely what a number means.