# A real world example in the difference of speed and velocity*

… textbooks confusing the terms speed, velocity and acceleration tells me that the textbook writer doesn't come close to knowing the subject. Someone might ask if it really even matters outside of science. I'll illustrate with a quick, real-world example.

Several years ago, I was an expert witness in a very lengthy lawsuit about a worker who was severely injured when a truck at a paving site backed over him. I was involved because of my background as an acoustical engineer. I dealt with the audibility of the backup alarm and how the sound field was distorted by the manner in which the alarm was installed.

Toward the end of the many depositions (there were five teams of lawyers), an attorney who was working hard to discredit my conclusions asked if I'd measured the wind speed when I did my testing at the site. I answered yes. He perked up and dug out an old transcript. He asked if I remembered testifying on a particular date, when he had asked me if I had measured the wind velocity and I had said no. He obviously thought he had me on something.

I asked to read the testimony page in question, "What's the problem?" I asked. "Both answers are correct." None of the lawyers understood, so I explained: "Speed is a scalar quantity. Velocity is a vector; it has two parts – magnitude or speed, and direction. Speed and velocity are not the same. Speed does not indicate direction. If you are going to use the terms, I suggest you know their meanings." That pretty much ended the interrogation and the case was settled.

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