THE SPIRIT OF EXPLORATION:

There's a phoenix rising from the coal-tar residues, demolition debris and parking-lot asphalt on the Connecticut River floodplain at Adriaen's Landing: It's named the Connecticut Science Center.

This name is a phoenix as well, rising from its cumbersome former name, the Connecticut Center for Science & Exploration. All by itself, the new name may help erase the predicted national shortage of scientists and engineers because it demonstrates that exploration is part of science, rather than something separate.

Some people work as scientists because it's a respectable career that serves the public good and pays enough to feed a family. But the opiate that drives most of the scientists I've met is the neurological rush they experience when finding out something new. Artists may be generally motivated by the desire to create. Scientists are also motivated by a desire to create, especially after exploring new ideas.

The state of American high-school science education is not a pretty picture, at least not when measured by the recent National Assessment of Educational Progress. The scores on such standardized tests can be raised, and the results measured, by teaching the language, knowledge and skills of scientists.

Unfortunately, the predicted shortfall of scientists and engineers can't be reduced by pouring more information into pre-science-career brains. They are nourished when kids are given the freedom and opportunity to investigate whatever it is they feel like exploring at the moment. There are plenty of fantastic science classrooms and teachers out there. There are also plenty of school field trips and independent research projects involving the collection of data. I just wish there were more of them.

The formative childhood experiences that led me to a career in science didn't take place in the "sit still and listen" atmosphere of school. Instead, they took place after school in wooded parks, creek-bottoms and sewage treatment plants -- natural laboratories that would give today's school administrators heart failure in our litigious educational environment.

For a while, I was the great paleontologist, mistakenly interpreting the limy fossils of stalked "sea urchins" as petrified cigarette butts of Indians. Later, I was the great embryologist, who took eggs from the nests of mallards, incubated the egg with a light bulb, then pickled one embryo per week in a baby food jar.

Still later, I was the great surveyor who mapped my neighborhood with a transit made from a "borrowed" towel bar, plywood, a camera tripod, three protractors, two fishing weights, one spool, a 10-foot stick marked off with orange paint and a little brother to hold the stick. Each of these projects was precipitated by a "eureka" moment I had while leafing through the family encyclopedia or while reading something I checked out of the library.

As a kid, I went after the germ of an idea with whatever resources were available. I was motivated by the addictive joy that came from self-discovery, and the feeling of power that came from learning something I believed no one else knew. Forty years later, this is what I, and my scientific colleagues are still doing, at least when we get the chance.
Don't get me wrong. I liked science classes and museums. They were places I could go to see things beyond my reach, to get the help I needed and to learn the requisite background. They may also have been the best places for the majority of kids to learn the most science.

But I was a curious, physically active, independent and willful child with personality traits closer to those of an explorer than of an archivist, not the type who made a teacher's life easy. In fact, I preferred to do science in art class because it was there that we were most often given materials to experiment with and the freedom to create whatever we wanted -- within reason. Also, there was less information and fewer new terms to get in the way.

I'm sure the Connecticut Science Center will give thousands of schoolkids information that will help them pass standardized tests and amaze many more with gizmos and graphics. But what I hope most is that the exhibits will give kids the chance to explore. In the process, they will realize that exploration is part and parcel of science. The fun part.