

April 27, 1989

Dear _____ ,

In June, I expect to complete the manuscript of an innovative college physics book. It could be used as a stand-alone supplement or as a study guide for your physics books by _____ and _____ .

The main focus of this book is how to solve "word problems" in physics. Most colleges teach three basic physics courses: one for non-science majors, another for majors in biology, architecture,... and a calculus-based course for majors in physics, engineering, chemistry,... A major emphasis of the biology-major and calculus-based courses is solving problems, and my book's approach to physics problem-solving is, I think, more comprehensive and well organized than that offered by any book now available.

The ideas in it were developed from 1) analysis of my own problem solving strategies, 2) an unusually large amount of direct interaction with students, and 3) a study of cognitive science research articles to insure that my teaching methods are based on sound theoretical principles.

My problem solving skills are good, and I've often received the highest grade on exams. For example, based on a competitive exam the American Chemical Society awarded me "Most Outstanding Student" for the high schools of Orange County, CA (population 1 million) and for the University of California at Irvine. My scores for the Graduate Record Exam, which is taken by students applying to graduate school, were in the 99th, 98th and 98th percentiles for the math, verbal, and analytical sections.

During ten years of tutoring at the University of Washington, I've worked thousands of problems, constantly improving my own solution strategies and searching for ways to teach these skills to students in easy-to-master steps. In one-to-one conversation I've shared their struggles, discovering how they think and learn. Students' questions — like "How did you get that picture from those words?" or "How can I decide which equation to choose?" — have kept my attention focused on the goal — to meet their needs. Because there is no "front of the classroom pressure," I've been able to relax and try different teaching methods (with instant feedback from the student) to find what works best. Students are enthusiastic about my methods; a typical response is "Why doesn't the textbook show us how to solve problems this way?"

The interactive process of tutoring has convinced me that effective thinking skills can be taught to students, in person or in a book. The best way to see how my book accomplishes this goal is to read it.

Along with the enclosed chapters there is a Reviewer's Letter (at the front of the manuscript) that suggests three chapters to read, plus selected sections that show the special features of this book, whose working title is Physics: Tools for Problem Solving.

The pages that follow contain a brief description of the book, a "marketing brainstorming" discussion, and information about the author.

For information that will help you decide what to do with this manuscript, the most interesting-and-useful sections are probably Marketing and the Reviewer's Letter.

I look forward to hearing from you soon, to find out if this book might fit into your publishing plans. A self-addressed stamped envelope is enclosed.

Sincerely,
Craig Rusbult