throughout the book, instead of just sticking them in a couple of chapters at the end.

"We’re hoping to show that organic and biochemistry have systems that you can use to demonstrate chemical principles just as easily as if you picked an inorganic system," Stanitski says. For example, rather than using hydrocyanic acid to illustrate a weak acid, bioacids such as lactic acid and pyruvic acid can demonstrate the same principles.

The writers also tried to convey to students the excitement of current chemistry. Moore takes note of the research areas that his newer colleagues are interested in pursuing, such as materials science and biochemical applications. Students ought to be hearing about these cutting-edge topics in their introductory course, he says, so the topics were introduced as examples in the book.

For the textbooks written by multiple authors, the teams typically divide the chapters among themselves, based on interests, research backgrounds, and a little give and take, Jurs says. Although each chapter has a primary author, each author is involved with every chapter after the initial draft is written.

Despite being hard work, the actual writing was described by nearly every author as being the most enjoyable part of the process. "I enjoy the challenge of finding new ways to say things, different ways to present material, looking at all the aspects of the material in a chapter and making sure that the linkages are where they should be," Stanitski says. "I also like trying to put material in context so that learning chemistry is not some sterile exercise." (Stanitski is also the editor-in-chief and senior author of "Chemistry in Context: Applying Chemistry to Society," an American Chemical Society textbook for nonscience majors.)

Moore agrees. "Although it seems as if it would be dog work, I actually enjoy getting the chapter down in the first place," he says, "just thinking about it, thinking it through, and trying to figure out what the students are going to need to see and do as they’re trying to learn."

ANOTHER ATTRACTION of writing a textbook, Jurs says, is being able to do things your way. "The most enjoyable things about writing a textbook is being able to incorporate one’s own way of explaining concepts and one’s own bag of examples and nifty metaphors," he says. "It’s fun to share your neat examples with a wider audience than the classroom."

Ball enjoyed the self-education that he got from having to organize the material. In addition, he class-tested the book as he was writing it. "I’ve been the recipient of some constructive student feedback on how well they can read and comprehend the book," he says. "I think I have a good enough relationship with my students that they know they can point out something that not all the students are going to be chemists," says Bell, who was a chemistry professor for 30 years.

One of the major ways the textbook differs from other general chemistry textbooks, Bell says, is in its pedagogy, which attempts to involve students. Activities called "Investigate This" are scattered throughout the book, 12 to 15 per chapter. The simplest one calls on the students to wet a finger on one hand, wave both hands in the air, and note any difference between a wet and dry finger. "The discussion that follows is very rich, because most students cannot explain why the wet finger feels cooler," Bell says.

Convincing professors to adopt the book will require that they buy into the teaching methods needed, according to Bell. "It really will be a sales pitch not just for the content, but for the pedagogy," he says. "From my point of view, the way to make it successful is to provide workshops for teachers who want to try this but are a little reluctant because it’s very different from what they’ve been doing."

The examples in the book range from biology to earth science. "The flavor you get of chemistry is much broader than you might get in a traditional course, and the way the material is introduced is a little different," says Sylvia A. Warr, director of ACS’s Education Division. "The examples are different, the order in which the material is presented is different, and there’s nothing quite like it out there at the moment."

A year of field-testing the alpha version of the text has just ended. Approximately 15 schools, 20 faculty, and 500 students participated in the testing. Based on feedback from the field test, Bell is currently revising the text for the beta version, which will be tested starting in September. The final version will be published in 2003 by W. H. Freeman.

All of the students participating in the field test were required to take the conceptual general chemistry exam from the ACS Examinations Institute. The results from the exam are encouraging, according to Bell. The average results from the field-test students are in line with the average results of all the students taking the exam nationally.

Another interesting result is that a larger percentage of the students in the field test are signing up for organic chemistry and indicating an interest in becoming chemistry majors. "We didn’t set out to make chem majors," Bell says, "but that can’t be bad."