



## Miller & Levine 2014

### How is the Texas Egret book different from the Dragonfly?

Biology is a fast-moving science, so a successful biology textbook requires constant revision. Since the first introduction of the “Dragonfly” book in 2002, we have revised and updated the book on an almost yearly basis. The last edition bore a 2008 copyright, and contained significant updates and improvements over the original. As we prepared that update, however, we decided that it would be the last iteration of the Dragonfly. We wanted to rethink our approach, and to combine new scientific developments with new instructional techniques and new digital and multi-media instructional tools. We produced an entirely new book, featuring a scarlet Macaw on its cover, that offered students unprecedented opportunities to take an active role in the exploration, experimentation, and learning. The most recent edition appeared early in 2013.

While that book was still in production, we began work on a Texas-specific edition tailored to the Lone Star State’s revised science standards. The timing of this year’s Texas science adoptions gave us an opportunity to incorporate the successful new teaching strategies, new content, and new technology of our national program into one specially crafted for the needs of Texas students and teachers. So, how does our new book differ from the Dragonfly book?

### What hasn’t changed?

- **Writing Style:** Teachers familiar with the Dragonfly book will recognize the personal touch that has always marked our textbooks. We engage students with a conversational narrative style that draws student readers into the process of discovery while providing insights into the way science works. We’ve supplemented that student-friendly style with new and striking visual analogies that help illustrate and explain many abstract key concepts in Biology.
- **Table of Contents:** Based on strongly positive teacher reaction to the Dragonfly book, we made few changes to the order of presentation. We still lead with ecology in the second unit, and then move into cell structure, genetics, and molecular biology. Our evolution unit follows, leading into a tour of the diversity of life. We have made important changes to the animal diversity chapters, replacing a phylogenetic survey with a series of explorations of body systems and functions. Nationally, the reaction to this change has been very positive, with teachers telling us it gives students a more conceptually-based understanding of the unity and diversity of life.

• **Attention to Standards:** We prepared our Egret program with careful attention to the TEKS as revised in 2009. We first constructed a spreadsheet that listed each and every point in the TEKS, and then decided where and how to best cover these. We then linked our presentation to TEKS-specific study and review questions. These are highlighted in the Teacher’s Edition, giving instructors a clear pathway to prepare students for the STARR exams. Our program also includes a full complement of STARR review and practice tests.

• **Art Linked to Narrative:** We worked directly and intensively with artists and editors on the art program as we wrote each chapter. We insisted that our illustrations couldn’t be simply decorative “add ons,” but needed to work directly with the text to enhance and expand student understanding.

• **Author Involvement:** The two of us, Joe Levine and Ken Miller, wrote each and every chapter of the our new Texas book, just as we did with the Dragonfly. We’re always available to teachers and students to answer questions, and we freely share our contact information. We speak regularly at CAST and other state science meetings, and will continue to do this to support this new program.

## What’s New?

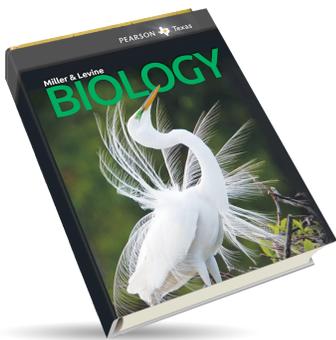
• **Fewer Chapters:** We’ve made several important content decisions that reflect changes in both the science of biology and the goals of biology education. We’ve saved space by combining several chapters in surveys of living organisms and human physiology, so the new book contains just 30 chapters. However, we’ve actually expanded our coverage of key subjects like molecular biology, human genomics, ecology, and evolution. These changes enable our program to provide more depth in the most dynamic and important areas of current biology.

• **Chapter Mysteries:** Each chapter begins with a “Chapter Mystery” that poses a question that is fundamentally important and addresses a “big idea” related to chapter content. Taking a CSI-like approach to biology, we’ve used these Mysteries to weave a strand of inquiry through every topic in the curriculum. Each Chapter Mystery is accompanied by a specially-commissioned video, produced to our specifications by a talented and energetic group of youthful science educators called Untamed Science. These videos highlight the drama of the Mysteries, and engage and inspire students in solving them. We think you’ll immediately see the value of this approach.

• **New Science:** There’s plenty of “new” biology in our program. We’ve worked hard to include the latest and most important scientific breakthroughs, to frame them in terms that your students will understand and appreciate, and to correlate them with appropriate TEKS. Look through the new program, and you’ll see groundbreaking and unique descriptions of stem cell research, RNA Interference technology, the “bar-coding” of living organisms, and monitoring ecology from space.

• **Biological Classification:** More than a decade ago, biologists abandoned traditional Linnaean classification for the cladistic system, which reflects our growing understanding of evolutionary relationships among organisms. We've retained useful references to traditional classification, but present each major group of organisms in the context of its evolutionary relationships - both because that approach represents advances in our understanding of the living world, and because it is the system students will encounter in college.

• **A Completely Digital Program:** In addition to improvements in the printed text, our entire program is available to teachers and students on a new, improved, user-friendly digital platform. The on-line program not only presents the text and illustrations in digital formats for any device, laptop or tablet, but provides an entirely new approach to learning. Students can explore topics in depth, review material, and work with simulations of biological processes. Our digital program includes biology-oriented games, videos, virtual laboratories, note-taking, interactive self-assessments, and real-world inquiry. For teachers, it includes lesson-planning, student achievement tracking, an on-line teachers edition, editable worksheets, and an extensive media gallery. All these can be sampled through the program website at **[trypearsontexas.com](http://trypearsontexas.com)**.



• **Differentiated Instruction:** Just like the Dragonfly book, our new text provides resources appropriate for students at all levels, including English language learners, advanced students, and mainstream students.

Finally, and most importantly, we hope you will contact us directly if you have any questions about our program. We have always taken our writing personally — which means that we are always available to you, your colleagues, and your students, to assist you in the classroom and lab. We'd be delighted to exchange emails, talk with you directly over the phone, or even set up a conference call to help you understand what's new and different about our program. Please don't hesitate to contact us directly at any time — and thanks for the wonderful work you are doing for your students.

Sincerely,

A handwritten signature in black ink that reads 'Ken Miller'. The signature is fluid and cursive.

Kenneth R. Miller, Ph. D.  
Professor of Biology  
Brown University  
[ken.miller@brown.edu](mailto:ken.miller@brown.edu)  
tel: 401-863-3410

A handwritten signature in black ink that reads 'Joe Levine'. The signature is fluid and cursive.

Joseph S. Levine, Ph. D.  
Science Educator & Producer  
[levinejs@aol.com](mailto:levinejs@aol.com)  
[www.inquiryinrainforests.org](http://www.inquiryinrainforests.org)

[www.millerandlevine.com](http://www.millerandlevine.com)