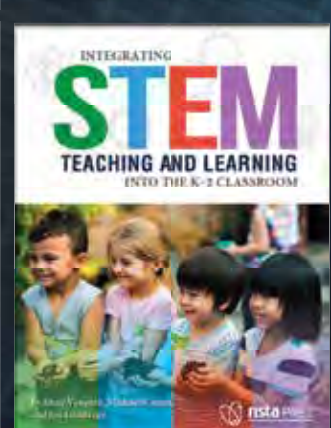
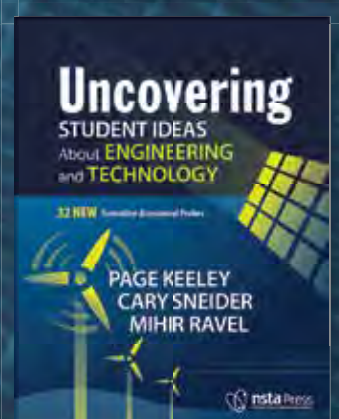
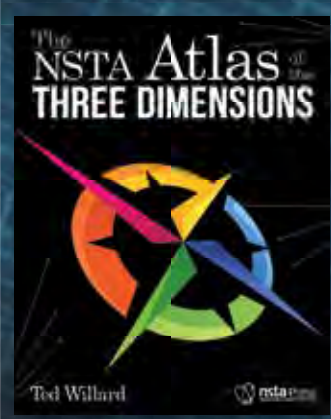
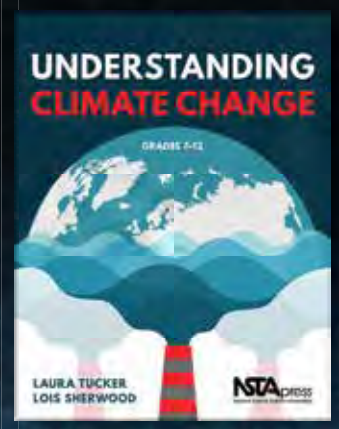
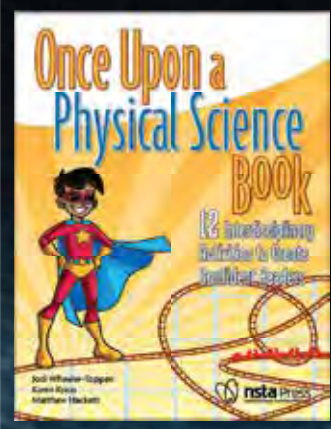


# NSTA RECOMMENDS

Professional Resources  
for Science Educators  
Fall 2020



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Prices and availability are subject to change without notice.

## A Few Words From Our Readers

“

I love when kids discover a concept on their own through an investigation and it clicks for them that this could be a passion that they can pursue as a career!

—Kathryn L.

”

“

I love that teaching science requires students to critically think and come up with their own interpretations. I learn as much from my students as they learn from me.

—Thad K.

”

“

NSTA Press books are based on the latest educational research and are supportive no matter how long you have been teaching.

—Susan M.

”

“

I love seeing my students wanting to know more!

—Sonya J.

”

“

Nothing makes my day better than watching a student have an aha moment.

—Laura M.

”

“

I love that NSTA Press books provide different ways to approach a topic. I learn about coaching students through inquiry projects, teaching questioning as a way to dig deep into student interests, and developing truly integrated units to support literacy through STEM topics and activities.

—Laura L. A.

”



PREK-5

6-8

9-12

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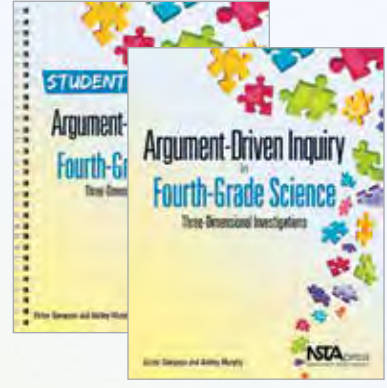
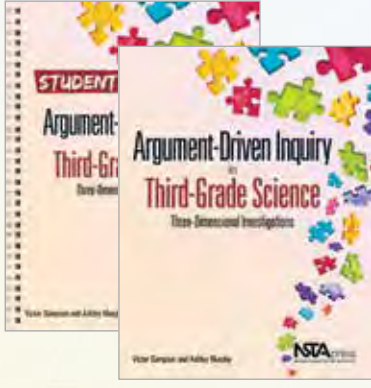
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# Argument-Driven Inquiry

## Three-Dimensional Investigations for Elementary Students



AVAILABLE OCTOBER 2020

### Teacher Books

<p>Book Members: <b>\$40.28</b> Non-members: <b>\$50.35</b></p>	<p>E-book Members: <b>\$30.21</b> Non-members: <b>\$37.76</b></p>	<p>Book/E-book Members: <b>\$48.33</b> Non-members: <b>\$60.42</b></p>
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### Student Workbooks

<p>Book Members: <b>\$16.76</b> Non-members: <b>\$20.95</b></p>	<p>E-book Members: <b>\$12.57</b> Non-members: <b>\$15.71</b></p>	<p>Book/E-book Members: <b>\$20.11</b> Non-members: <b>\$25.14</b></p>
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Now you can make the instructional shift to argument-driven inquiry (ADI) in your elementary classroom. Like the best-selling ADI books for middle and high school (see pp. 22–23), these volumes are written by veteran teachers and prompt students to use argument to construct, support, and evaluate scientific claims. You'll see that these books emphasize "figuring things out" instead of just "learning about things."

Each lesson comes with teacher notes, investigation handouts, and checkout questions. The investigations support the NGSS and the *Common Core State Standards* for English language arts and mathematics. The books can also help emerging bilingual students meet the *English Language Proficiency Standards* with their tips for teaching English language learners. Your students will explore questions such as: Why do wolves live in groups? How can you make an electric car move faster? And why do people use hot water instead of cold when making tea?

### Argument-Driven Inquiry in Third-Grade Science

Victor Sampson and Ashley Murphy | [NSTA PRESS, GRADE 3](#)

Includes 14 field-tested lessons covering motion and stability, molecules and organisms, heredity, biological evolution, and Earth's systems.

© 2019; ISBN: 978-1-68140-517-9; 584 pages  
#: PB349X7 E-book #: PKEB349X7 Book/E-book Set #: PKE349X7

**Student Workbook (Third-Grade Science)**  
© 2019; ISBN: 978-1-68140-567-4; 247 pages  
#: PB349X7S E-book #: PKEB349X7S Book/E-book Set #: PKE349X7S

### Argument-Driven Inquiry in Fourth-Grade Science

Victor Sampson and Ashley Murphy | [NSTA PRESS, GRADE 4](#)

Includes 15 field-tested lessons covering energy, waves and their application in technologies for information transfer, molecules and organisms, and Earth's place in the universe and systems.

© 2019; ISBN: 978-1-68140-520-9; 677 pages  
#: PB349X8 E-book #: PKEB349X8 Book/E-book Set #: PKE349X8

**Student Workbook (Fourth-Grade Science)**  
© 2019; ISBN: 978-1-68140-570-4; 259 pages  
#: PB349X8S E-book #: PKEB349X8S Book/E-book Set #: PKE349X8S

AVAILABLE OCTOBER 2020

### Argument-Driven Inquiry in Fifth-Grade Science

Victor Sampson, Todd L. Hutner, Jonathon Grooms, Jennifer Kaszuba, and Carrie Burt | [NSTA PRESS, GRADE 5](#)

Includes 16 field-tested lessons covering matter and its interactions; motion and stability; ecosystems and their interactions, energy, and dynamics; Earth's place in the universe; and Earth's systems.

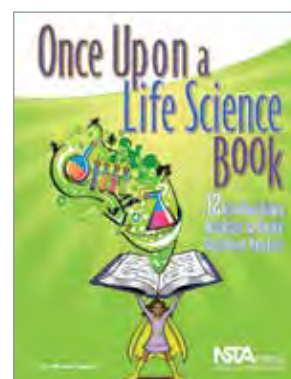
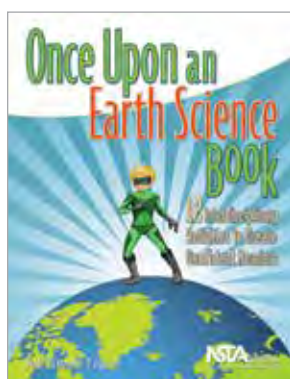
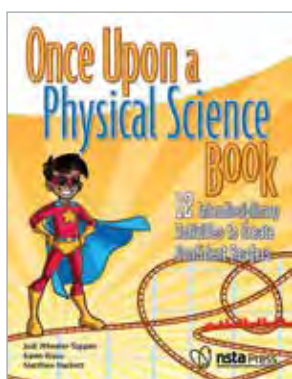
© 2020; ISBN: 978-1-68140-523-0; 720 pages  
#: PB349X9 E-book #: PKEB349X9 Book/E-book Set #: PKE349X9

**Student Workbook (Fifth-Grade Science)**  
© 2020; ISBN: 978-1-68140-573-5; 264 pages  
#: PB349X9S E-book #: PKEB349X9S Book/E-book Set #: PKE349X9S

# Once Upon a Science Book

Jodi Wheeler-Toppen | NSTA PRESS, GRADES 6–8

AVAILABLE OCTOBER 2020



**Your challenge:** Integrate literacy instruction with your science lessons—even if your students struggle with reading and you don't have a single extra minute of class time. **Your solution:** The *Once Upon a Science Book* series. These books provide everything you need to boost students' skills in science concepts and reading at the same time. The books start with advice on teaching reading-comprehension strategies to middle school students. Then the 12 content chapters give you hands-on science lessons organized in a learning cycle.

The explorations in the new physical science volume support the NGSS and the *Common Core State Standards* and cover key physical science concepts such as physical and chemical properties, inertia, energy, magnets, and waves. They have engaging titles like “The Smash-Masters,” “Energy’s Wild Ride,” and “How to Not Die in Antarctica.” In addition to the writing prompts and assessment activities found in all *Once Upon* books, this new volume presents a “Thinking Mathematically” activity to show how science and math concepts relate.

You'll love how practical and useful these books are. The authors are experienced teachers who know what it's like when students struggle with science texts. They'll help you take on the role of coaching your students in content-area reading!



Book

Members: **\$20.96**  
Non-members: **\$26.20**



E-book

Members: **\$15.72**  
Non-members: **\$19.65**



Book/E-book

Members: **\$25.15**  
Non-members: **\$31.44**

## Once Upon a Physical Science Book

### 12 Interdisciplinary Activities to Create Confident Readers

Karen Kraus and Matthew Hackett, Coauthors

© 2020; ISBN: 978-1-68140-741-8; 200 pages  
#: PB275X3 E-book #: PKEB275X3 Book/E-book Set #: PKE275X3

## Once Upon an Earth Science Book

### 12 Interdisciplinary Activities to Create Confident Readers

© 2016; ISBN: 978-1-941316-09-2; 185 pages  
#: PB275X2 E-book #: PKEB275X2 Book/E-book Set #: PKE275X2

## Once Upon a Life Science Book

### 12 Interdisciplinary Activities to Create Confident Readers

© 2010; ISBN: 978-1-935155-09-6; 161 pages  
#: PB275X E-book #: PKEB275X Book/E-book Set #: PKE275X





## Uncovering Student Ideas About Engineering and Technology

### 32 New Formative Assessment Probes

Page Keeley, Cary Sneider, and Mihir Ravel | NSTA PRESS, GRADES 3–12

Find out what your students know—or think they know—about the important topics of engineering and technology. Like the other 11 volumes in the popular *Uncovering Student Ideas* series (pp. 9–11), this book offers teacher-friendly formative assessment probes to help you reveal preconceptions and misunderstandings that students (and maybe even you) hold. But instead of exclusively concentrating on science disciplines, this book’s 32 probes focus on the disciplinary content of engineering and technology, engineering practices, and connections to crosscutting concepts with titles such as “Is Engineering Creative?,” “Working Together to Save Lives,” and “Pizza Problem.”

The probes are organized into four sections that explore what technology and engineering are, how to define problems, and how to design and test solutions. Each section includes a matrix of key ideas and the suggested grade levels for each probe. All probes are short, easy to administer, and **available in both English and Spanish**. You can use them to uncover students’ thinking about everything from the purpose of technology to who can become an engineer to how an engineering design process works.

Given the importance of STEM in today’s classrooms, it’s vital to present related content in ways that will help your students learn the material accurately. *Uncovering Student Ideas About Engineering and Technology* will help you choose the instructional path that works best with your learning goal, your students’ preconceptions about engineering and technology, and the diverse learners in your classroom.

© 2020; ISBN: 978-1-68140-311-3; 211 pages

#: <b>PB455X</b>	Members: <b>\$31.88</b>	Non-members: <b>\$39.85</b>
E-book #: <b>PKEB455X</b>	Members: <b>\$23.91</b>	Non-members: <b>\$29.88</b>
Book/E-book Set #: <b>PKE455X</b>	Members: <b>\$38.25</b>	Non-members: <b>\$47.82</b>



## The NSTA Atlas of the Three Dimensions

Ted Willard | NSTA PRESS, GRADES K–12

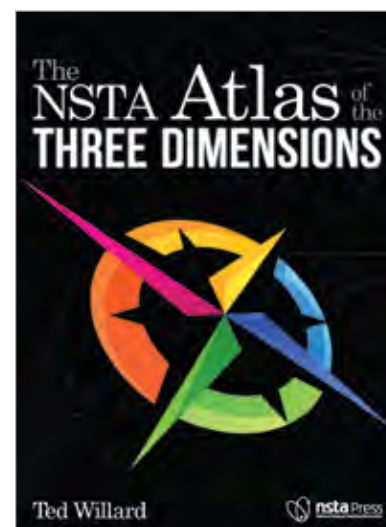
Think of this book as your detailed guide to a deeper understanding of what your students are expected to learn and what you’re expected to teach them. *The NSTA Atlas of the Three Dimensions* provides 62 maps showing what students should know and be able to do regarding the three dimensions of science described by *A Framework for K–12 Science Education*, the *Next Generation Science Standards*, and other state standards. The linked maps illustrate how the dimensions’ elements can build on each other and connect to one another over the course of a K–12 education. Regardless of the grade levels you specialize in, this book can bring new coherence whenever you’re developing a curriculum, planning instruction, or performing assessments.

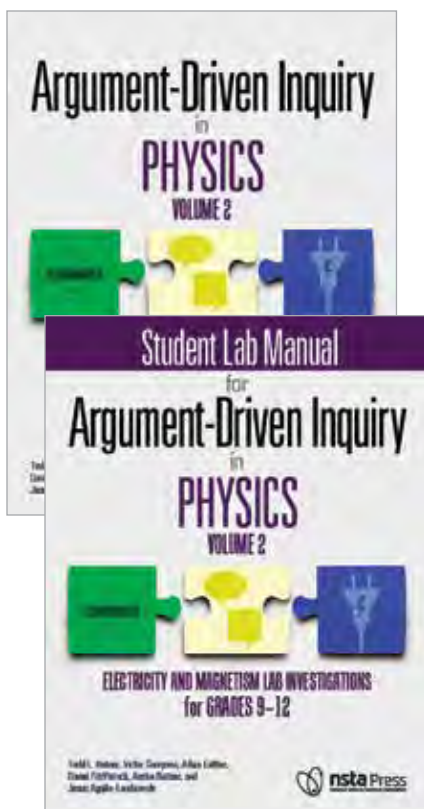
The *NSTA Atlas* was developed using the same techniques as the popular *Atlas of Science Literacy* volumes. Those books focused on the previous generation of standards when it was published in 2001 by NSTA and the American Association for the Advancement of Science. Like the earlier *Atlas*, this one is oversized and spiral-bound for easy use. The maps are accompanied by excerpts from the *Framework* that provide an overview of the topic of the maps.

Using the *NSTA Atlas* as a navigational tool, you’ll be able to trace the prerequisites for understanding science in every grade. You’ll make the connections to support science content. And you’ll show the way to the next steps in your students’ science education—all in the context of today’s standards.

© 2020; ISBN: 978-1-938946-08-0; 194 pages

#: <b>PB414X</b>	Members: <b>\$61.70</b>	Non-members: <b>\$77.12</b>
E-book #: <b>PKEB414X</b>	Members: <b>\$46.27</b>	Non-members: <b>\$57.84</b>
Book/E-book Set #: <b>PKE414X</b>	Members: <b>\$74.04</b>	Non-members: <b>\$92.54</b>





## Argument-Driven Inquiry in Physics, Volume 2

### Electricity and Magnetism Lab Investigations for Grades 9–12

Todd L. Hutner, Victor Sampson, Adam LaMee, Daniel FitzPatrick, Austin Batson, and Jesus Aguilar-Landaverde | NSTA PRESS, GRADES 9–12

A guide to argument-driven inquiry (ADI) that covers electricity and magnetism is the newest book in the ADI series, which also covers mechanics-related physics, biology, and chemistry (see pp. 22–23). Like those NSTA bestsellers, this book is designed to help you build your students' science proficiency through three-dimensional instruction. It makes labs more authentic by helping students identify questions, develop models, collect and analyze data, generate arguments, and critique and revise reports.

*Argument-Driven Inquiry in Physics, Volume 2: Electricity and Magnetism Lab Investigations for Grades 9–12* is divided into three parts. First comes an introduction to ADI and information on how to use the labs. Next are 17 field-tested labs that cover electrostatics; electric current, capacitors, resistors, and circuits; and magnetic fields and electromagnetism. All labs are three-dimensional in their design and easy to use, thanks to the teacher notes, lab handout, and checkout questions provided with each investigation. Finally, helpful appendixes provide scoring rubrics and peer review guides and show how the labs support the *Next Generation Science Standards*, AP Physics standards (for both algebra- and calculus-based courses), and the *Common Core State Standards* for mathematics and English language arts.

© 2020; ISBN: 978-1-68140-377-9; 450 pages

#: PB349X5V2	Members: \$40.28	Non-members: \$50.35
E-book #: PKEB349X5V2	Members: \$30.21	Non-members: \$37.76
Book/E-book Set #: PKE349X5V2	Members: \$48.33	Non-members: \$60.42

### Student Lab Manual for Argument-Driven Inquiry in Physics, Volume 2

© 2020; ISBN: 978-1-68140-735-7; 220 pages

#: PB349X5V2S	Members: \$16.76	Non-members: \$20.95
E-book #: PKEB349X5V2S	Members: \$12.57	Non-members: \$15.71
Book/E-book Set #: PKE349X5V2S	Members: \$20.11	Non-members: \$25.14



## Novel Engineering, K–8

### An Integrated Approach to Engineering and Literacy

Elissa Milto, Merredith Portsmore, Jessica Watkins, Mary McCormick, and Morgan Hynes | NSTA PRESS, GRADES K–8

Picture your students designing a hearing aid for the main character in *El Deafo*—and then styling it as a fashion accessory. Or imagine them helping the shipwrecked Swiss Family Robinson build a structure to keep them cool under the hot sun. *Novel Engineering* shows how your students can use literary works as the basis for an engineering design challenge. This innovative resource will have your students pulling information from literature to identify a problem. Then, using details from the story as evidence, they'll go through an engineering design process to develop functional solutions for their "clients"—the book's characters.

*Novel Engineering* provides you with plenty of practical guidance for integrating engineering and English language arts (ELA), including a thorough introduction to the concept and detailed implementation advice. But the book comes to life through five in-depth case studies featuring the use of novels, a biography, and a nonfiction historical text.

You'll see that this approach doesn't require books outside your existing ELA or social studies curriculum. You'll also see that *Novel Engineering* can help you engage students in a powerful new way. As the authors write, "We have been encouraged by the excitement that students and teachers have shown for their work during Novel Engineering units. ... Students have taken ownership of their learning and are able to navigate the steps of an engineering design process, creating functional solutions to problems they have identified in texts."

© 2020; ISBN: 978-1-68140-642-8; 252 pages

#: PB449X	Members: \$35.24	Non-members: \$44.05
E-book #: PKEB449X	Members: \$26.43	Non-members: \$33.03
Book/E-book Set #: PKE449X	Members: \$42.28	Non-members: \$52.86





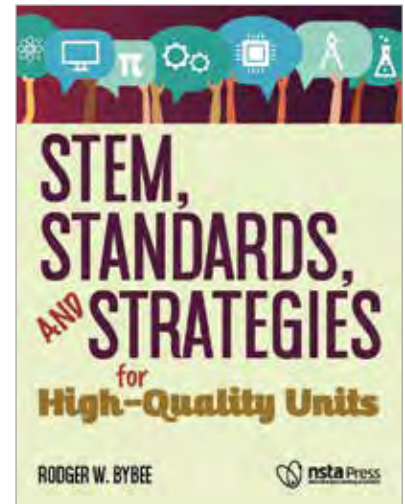
## STEM, Standards, and Strategies for High-Quality Units

Rodger W. Bybee | NSTA PRESS, GRADES K-12

Thought leader and curriculum expert Rodger W. Bybee has assembled a guide to creating coherent, high-quality classroom materials that support the standards and STEM. The book provides practical background information and activities that can be adapted by individual teachers, professional learning communities, and professional developers. It starts with a section on making foundational decisions about your STEM unit's development. Later sections discuss getting started with preliminary designs, improving the designs with new knowledge and skills, developing the unit, and then teaching and further improving the unit as needed. Throughout, Bybee integrates contemporary educational strategies such as the 5E Instructional Model, backward design, and lesson study. The book is useful whether your school is developing a new STEM program, adapting current instructional materials, or creating new materials of its own.

© 2020; ISBN: 978-1-68140-626-8; 190 pages

#: PB453X	Members: \$27.26	Non-members: \$34.07
E-book #: PKEB453X	Members: \$20.44	Non-members: \$25.55
Book/E-book Set #: PKE453X	Members: \$32.71	Non-members: \$40.88



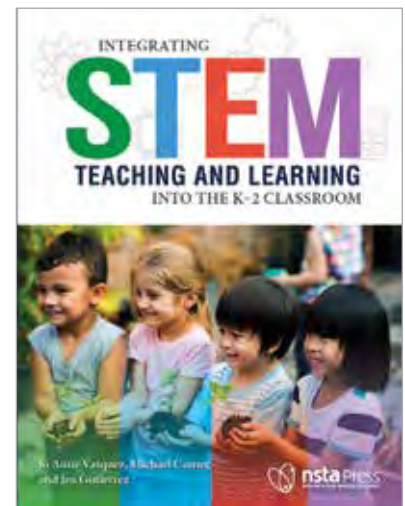
## Integrating STEM Teaching and Learning Into the K-2 Classroom

Jo Anne Vasquez, Michael Comer, and Jen Gutierrez | NSTA PRESS, GRADES K-2

With *Integrating STEM Teaching and Learning Into the K-2 Classroom*, you'll learn how STEM can become a natural extension as students apply what they are already learning in meaningful, grade-appropriate ways. The book's 10 chapters are designed as a mini-course on incorporating more authentic, phenomena-driven, integrated STEM teaching and learning into early elementary classrooms. The first few chapters cover what makes STEM education different, the key elements of STEM teaching and learning, and ways to blend STEM with your core reading block. From there, the chapters describe four completed STEM projects from actual classrooms—projects with names like “Baby Bear’s Chair” and “A Pond Habitat.” An easy-to-follow template shows you the process for developing your own STEM experiences. The final chapter describes how one district created a culture of STEM teaching and learning when education partners committed to working together toward a common goal.

© 2020; ISBN: 978-1-68140-620-6; 116 pages

#: PB450X	Members: \$26.84	Non-members: \$33.55
E-book #: PKEB450X	Members: \$20.13	Non-members: \$25.16
Book/E-book Set #: PKE450X	Members: \$32.20	Non-members: \$40.26



## Universal Design for Learning Science

### Reframing Elementary Instruction in Physical Science

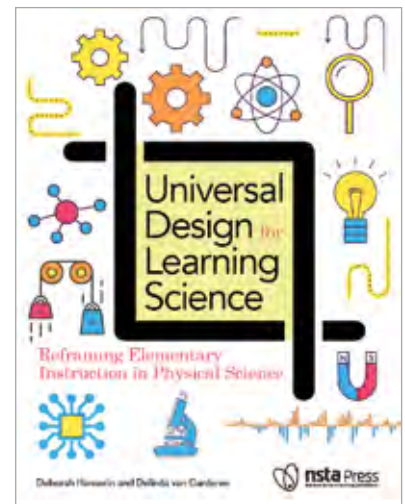
Deborah Hanuscin and Delinda van Garderen | NSTA PRESS, GRADES 3-5

*Universal Design for Learning Science* shows how you can use your existing curricula and resources to make your elementary school physical science lessons more effective. Whether you're teaching about magnets or matter, use this book to help you reframe the lessons to mirror how students learn and support the success of *all* students.

Using the 5E Learning Cycle and Universal Design for Learning, you'll see how lessons that support the NGSS can provide challenging experiences for all students. Through nine real-world vignettes, experienced teachers provide you with tips for teaching science in general to all students and in particular to kids who may require modifications in the learning environment. The teachers spotlight a variety of students—including struggling learners, those with differing physical abilities, and those with executive functioning challenges—as they demonstrate how strategies from the frameworks can knock down obstacles to learning.

© 2020; ISBN: 978-1-68140-695-4; 295 pages

#: PB452X	Members: \$26.84	Non-members: \$33.55
E-book #: PKEB452X	Members: \$20.13	Non-members: \$25.16
Book/E-book Set #: PKE452X	Members: \$32.20	Non-members: \$40.26



## The STEM Road Map Curriculum Series

Carla C. Johnson, Janet B. Walton, and Erin Peters-Burton, Series Editors | NSTA PRESS, GRADES K-12



Book

Members: **\$25.16**

Non-members: **\$31.45**



E-book

Members: **\$18.87**

Non-members: **\$23.58**



Book/E-book

Members: **\$30.19**

Non-members: **\$37.74**



### Human Impacts on Our Climate, Grade 6 STEM Road Map for Middle School

What if you could challenge your sixth graders to come up with a way to help tackle climate change in their own community? *Human Impacts on Our Climate* prompts students to investigate aspects of climate change that have been driven by the rise in global temperatures over the past century. Working in teams, they can then use an engineering design process to identify a local environmental problem and develop a model to help monitor and minimize it. Students will learn to recognize the differences between weather and climate and explain the causes and effects of global warming, including how humans influence it. They'll use mathematical modeling and numerical data to explore climate change's impact. They'll also analyze credible resources to form scientific arguments and develop a presentation about their findings. Throughout this three-lesson module, your students will develop a deeper understanding of how climate change influences the economy, our society, and people everywhere.

© 2020; ISBN: 978-1-68140-408-0; 130 pages

#: PB425X15 E-book #: PKEB425X15 Book/E-book Set #: PKE425X15



### The Changing Earth, Grade 8 STEM Road Map for Middle School

What if you could challenge your eighth graders to help people recognize the inherent risks of living in regions that are prone to flooding, earthquakes, and volcanoes? *The Changing Earth* introduces the powerful idea that the Earth is shaped by ongoing geologic processes that can alter a community's landscape in a short time. This six-lesson module also helps students appreciate the nature and process of science, including the roles of evidence, conjecture, and modeling. Students will learn about the rock cycle, including how it's driven by the Sun's energy and heat from the Earth's core. They'll develop their skills with mathematics, data analysis, and graphics and tables that summarize data. In the end, they'll devise a museum display to explore the geology of a specific area in North America or Great Britain. Students will present scale models of influential rock formations in their assigned area and posters about topics such as geology's impact on culture and community.

© 2020; ISBN: 978-1-68140-468-4; 260 pages

#: PB425X14 E-book #: PKEB425X14 Book/E-book Set #: PKE425X14



### Healthy Living, Grade 10 STEM Road Map for High School

What if you could challenge your 10th graders to create a product or process that helps people embrace diet and exercise *and* has a positive impact on society? *Healthy Living* builds students' knowledge from the varied perspectives of a cell biologist, nutrition scientist, biochemist, physiologist, public health practitioner, and consumer. Students start this three-lesson module by examining cell metabolism and structure so they understand what the body needs to function properly. Working in teams, they'll examine the physiological effects of exercise and nutrition. They'll even interview community stakeholders about factors that harm or enhance health. Using an engineering design process, students will then create a prototype of a health-enhancing product or process they design. Through a documentary they develop, they'll demonstrate their understanding of a healthy lifestyle and the effects of health-related choices on their community.

© 2020; ISBN: 978-1-68140-495-0; 133 pages

#: PB425X17 E-book #: PKEB425X17 Book/E-book Set #: PKE425X17



# UNCOVERING

## STUDENT IDEAS IN SCIENCE



Popular Series

Page Keeley | NSTA PRESS, GRADES K-12



Book

Members: **\$26.84**

Non-members: **\$33.55**



E-book

Members: **\$20.13**

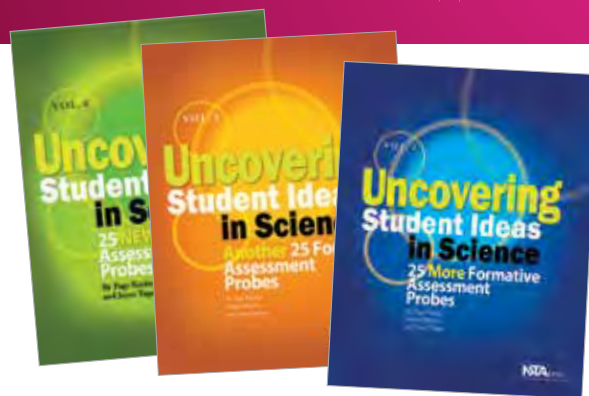
Non-members: **\$25.16**



Book/E-book

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### Volume 1, Second Edition

#### 25 Formative Assessment Probes

© 2018; ISBN: 978-1-68140-563-6; 209 pages

#: PB193X1E2 E-book #: PKEB193X1E2 Book/E-book Set #: PKE193X1E2

### Volume 2

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Francis Eberle and Joyce Tugel, Coauthors

© 2007; ISBN: 978-0-87355-273-8; 194 pages

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#### Another 25 Formative Assessment Probes

Francis Eberle and Chad Dorsey, Coauthors

© 2008; ISBN: 978-1-933531-24-3; 198 pages

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Joyce Tugel, Coauthor

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### About the Author

Page Keeley is the driving force behind the *Uncovering Student Ideas in Science* series and the author of more than a dozen bestselling books—including *Science Formative Assessment, Volume 1* and *Volume 2* and *Mathematics Formative Assessment, Volume 1* and *Volume 2* (with Cheryl Rose Tobey). She began writing assessment probes in the early 1990s after being inspired by the article “Teaching for Conceptual Change—Confronting Children’s Experience,” by Bruce Watson and Dick Konicek. Page provides consulting services to school districts and organizations throughout the country and is a frequent speaker on formative assessment and teaching for conceptual change.

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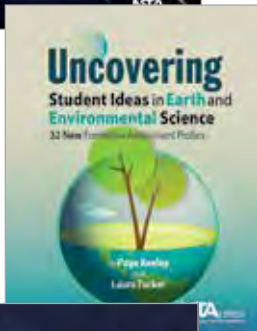
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Cary Sneider, Coauthor

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Laura Tucker, Coauthor

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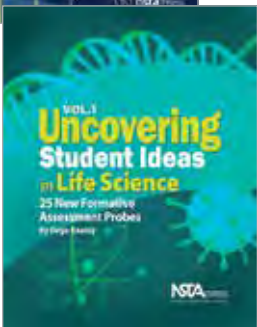
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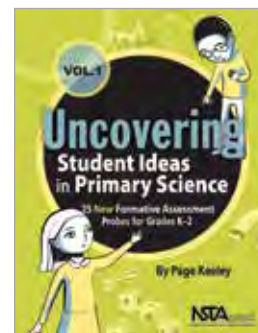
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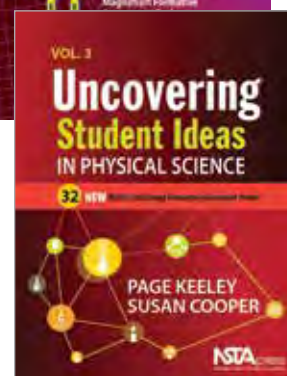
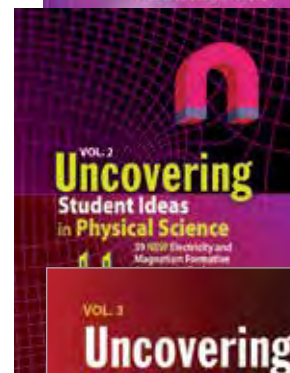
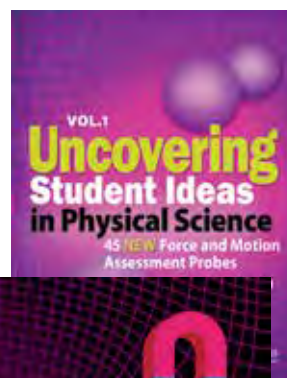
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Carla C. Johnson, Janet B. Walton, and Erin Peters-Burton, Series Editors | NSTA PRESS, GRADES K-12

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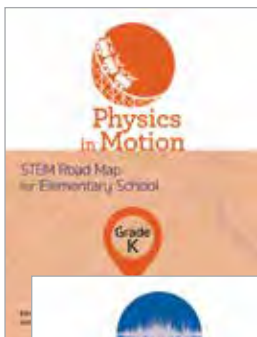
The *STEM Road Map Curriculum Series* is anchored in the *Next Generation Science Standards*, the *Common Core State Standards*, and the *Framework for 21st Century Learning*. The various books cover all the STEM components as students journey through their K-12 science education. Engaging and flexible, each volume can be used as a whole unit or in part to meet the needs of districts, schools, and teachers who are charting a course toward an integrated STEM approach.

See newest volumes on page 8!

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## Physics in Motion, Grade K *STEM Road Map for Elementary School*

Students are challenged to create a mini roller coaster to investigate concepts such as energy, gravity, friction, and speed. They use an engineering design process while working collaboratively to design, build, and test marble track roller coasters.

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## Influence of Waves, Grade 1 *STEM Road Map for Elementary School*

Students are challenged to create instruments they can play in their own “Show Me the Waves” musical show. They’ll discover that different types of waves, such as water and sound, come from different sources and travel in various ways.

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## Patterns and the Plant World, Grade 1 *STEM Road Map for Elementary School*

Students are challenged to relate changes in seasonal weather patterns to changes in the plant world, with an emphasis on observation, data collection, measurement, and presenting numerical data in graphic form.

© 2018; ISBN: 978-1-68140-507-0; 148 pages

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E-book #: PKEB425X11

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## Investigating Environmental Changes, Grade 2 *STEM Road Map for Elementary School*

Students are challenged to build an outdoor STEM classroom—complete with a butterfly garden, birdbath, and sundial—to explore how plant and animal life cycles coincide with the Earth’s movement around the Sun.

© 2019; ISBN: 978-1-68140-534-6; 163 pages

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# Curriculum Series

## Natural Hazards, Grade 2

### STEM Road Map for Elementary School

Students are challenged to help communities prepare for natural disasters. The goal is for students to learn about the effects of natural hazards on people, animals, communities, and the environment and to consider ways to minimize those threats.

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## Swing Set Makeover, Grade 3

### STEM Road Map for Elementary School

Students are challenged to design playground equipment that safely meets their own standards for fun as they learn about motion, forces, and geometric shapes and use mathematical tools to collect and record data.

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## Transportation in the Future, Grade 3

### STEM Road Map for Elementary School

Students are challenged to design a train of the future as they develop conceptual understanding of innovations in train technology, with a focus on maglev (magnetic levitation) trains.

© 2017; ISBN: 978-1-68140-399-1; 187 pages

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## Harnessing Solar Energy, Grade 4

### STEM Road Map for Elementary School

Students are challenged to design a way for solar energy to provide the world with clean water as they investigate energy, energy sources, and the greenhouse effect.

© 2018; ISBN: 978-1-68140-402-8; 208 pages

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## Rainwater Analysis, Grade 5

### STEM Road Map for Elementary School

Students are challenged to design rainwater recycling and delivering systems to provide water for a fictional community garden. They create a rain gauge, learn about volume calculations, and analyze data to determine the best location for a water collection system, among other activities.

© 2019; ISBN: 978-1-68140-449-3; 244 pages

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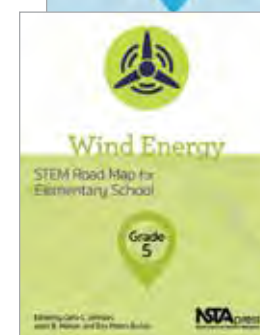
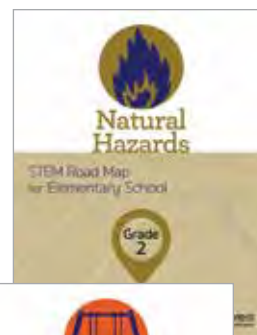
## Wind Energy, Grade 5

### STEM Road Map for Elementary School

Students are challenged to develop an economical, eco-friendly wind farm as they investigate the interactions of Earth's systems, including geography, weather, and wind.

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# The STEM Road Map Curriculum Series



## Amusement Park of the Future, Grade 6 STEM Road Map for Middle School

Students are challenged to research the background and designs of amusement parks as they learn about energy transfer, create blueprints, build and test small-scale prototypes, and develop cost-benefit analyses.

© 2018; ISBN: 978-1-68140-483-7; 114 pages

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## Packaging Design, Grade 6 STEM Road Map for Middle School

Students are challenged to create packaging that's engineered to both protect a product and make it a hot seller as they learn about geometric properties of three-dimensional shapes and engineering design.

© 2018; ISBN: 978-1-68140-452-3; 180 pages

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## Improving Bridge Design, Grade 8 STEM Road Map for Middle School

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© 2018; ISBN: 978-1-68140-414-1; 234 pages

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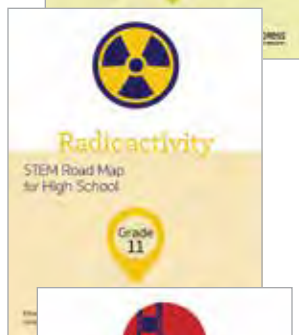


## Construction Materials, Grade 11 STEM Road Map for High School

Students explore how high-rises are constructed, their influence on society, and how to communicate complex ideas clearly; the factors involved in the collapse of the World Trade Center's twin towers in New York, with a focus on how engineers use structural failures to learn more about the designed world; and construction innovations.

© 2018; ISBN: 978-1-68140-471-4; 115 pages

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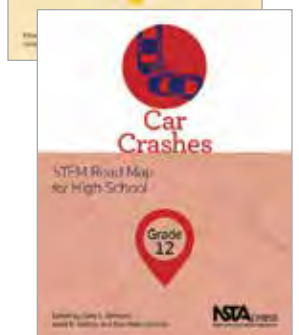


## Radioactivity, Grade 11 STEM Road Map for High School

Students will consider the safety and efficiency of using nuclear power to meet the country's energy demands. They will model nuclear fission, create computer-generated simulations, calculate the energy yield of an individual nuclear event (decay, fission, and fusion), and use exponential functions to represent chain reactions.

© 2019; ISBN: 978-1-68140-474-5; 185 pages

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## Car Crashes, Grade 12 STEM Road Map for High School

Students are challenged to research how car accidents happen—and what can be done to prevent them. They will investigate many aspects of accident prevention and response. They'll also use mathematics to reverse-engineer car crash scenarios and synthesize the information so they can act as expert witnesses in a simulated courtroom.

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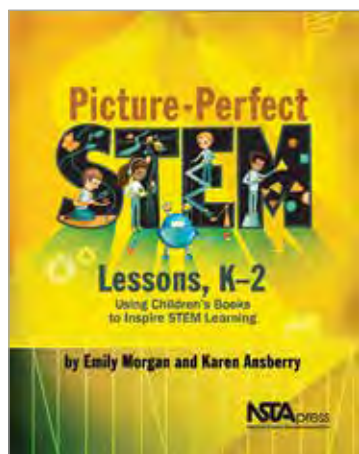
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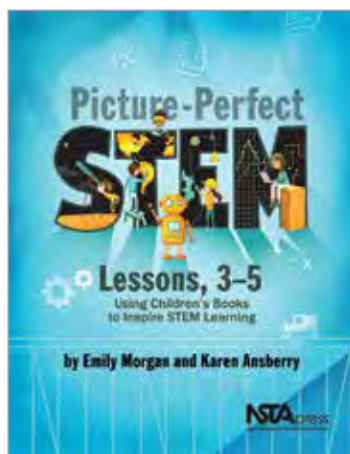
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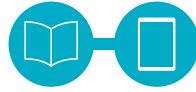
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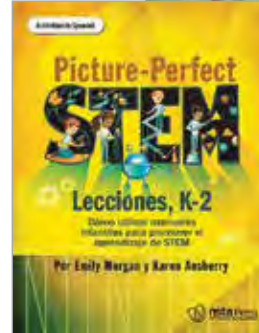
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Victor Sampson, Ashley Murphy, Kemper Lipscomb, and Todd L. Hutner | NSTA PRESS, GRADES 6–10

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#: PB349X6 E-book #: PKEB349X6 Book/E-book Set #: PKE349X6

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© 2018; ISBN: 978-1-68140-598-8; 284 pages  
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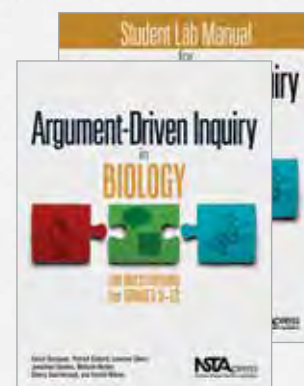


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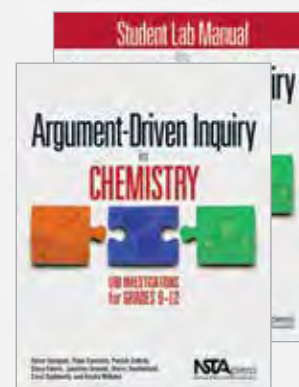
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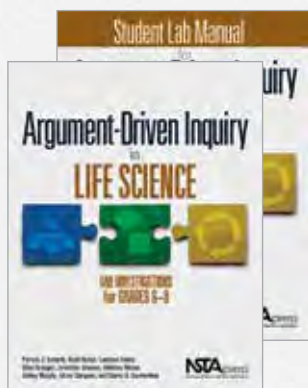


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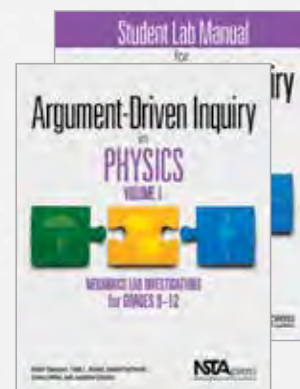
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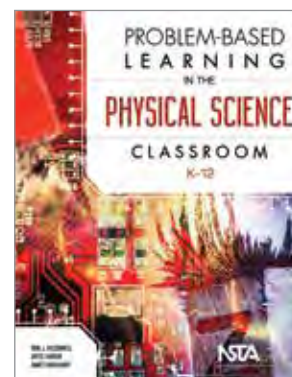
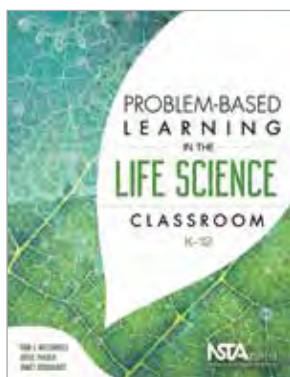
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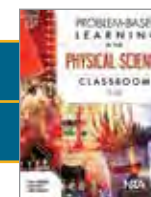
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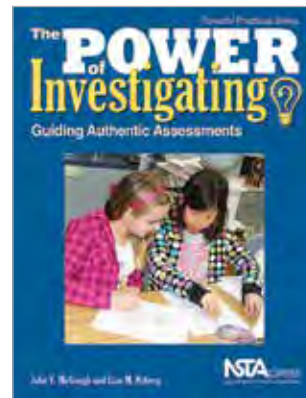
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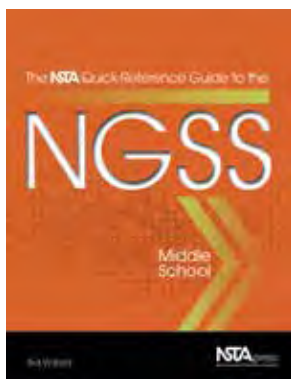
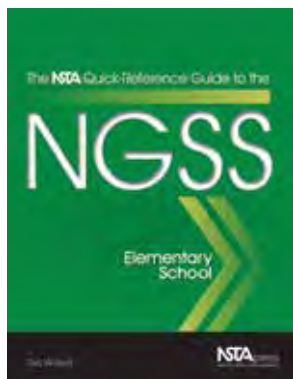
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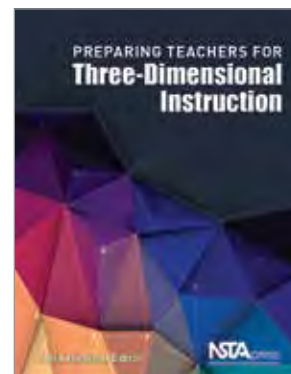
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E-book #: PKEB402X Members: \$25.17 Non-members: \$31.46  
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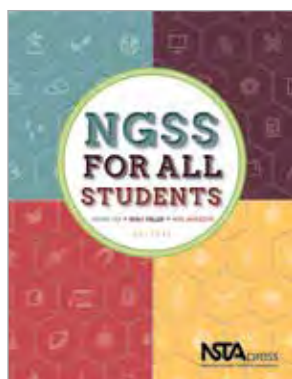
## Helping Students Make Sense of the World Using Next Generation Science and Engineering Practices

Christina V. Schwarz, Cynthia Passmore, and Brian J. Reiser | NSTA PRESS, GRADES K–12

Written in clear, nontechnical language, this book provides a nuts-and-bolts understanding of the practices strand of the *Framework* and the *NGSS*. It addresses three important questions: How will engaging students in science and engineering practices help improve class? What do the eight practices look like in the classroom? And exactly how can educators teach and support the *NGSS* using the practices? The book is a helpful resource for K–12 science teachers, curriculum developers, teacher educators, and administrators.

© 2017; ISBN: 978-1-938946-04-2; 381 pages

#: PB351X	Members: \$35.24	Non-members: \$44.05
E-book #: PKEB351X	Members: \$26.43	Non-members: \$33.03
Book/E-book Set #: PKE351X	Members: \$42.28	Non-members: \$52.86



## NGSS for All Students

Okhee Lee, Emily Miller, and Rita Januszzyk, Editors | NSTA PRESS, GRADES K–12

*NGSS for All Students* shows you how to teach diverse students *and* connect your lessons to the *Next Generation Science Standards (NGSS)*. The emphasis is on *show*. At the core of the book are case studies that vividly illustrate research- and standards-based classroom strategies to engage seven diverse demographic groups: economically disadvantaged students, students from major racial and ethnic groups, students with disabilities, English language learners, girls, students in alternative education, and gifted and talented students. The case studies span all grade levels and science disciplines.

© 2015; ISBN: 978-1-938946-29-5; 210 pages

#: PB400X	Members: \$30.20	Non-members: \$37.75
E-book #: PKEB400X	Members: \$22.65	Non-members: \$28.31
Book/E-book Set #: PKE400X	Members: \$36.24	Non-members: \$45.30



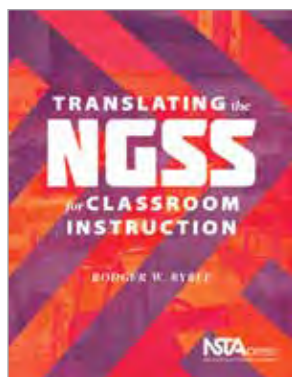
## Introducing Teachers and Administrators to the NGSS A Professional Development Facilitator's Guide

Eric Brunzell, Deb M. Kneser, and Kevin J. Niemi | NSTA PRESS, GRADES K–12

This book is a natural companion to *Translating the NGSS for Classroom Instruction* (below) and ideal for science specialists, curriculum coordinators, instructional coaches, and others who provide professional development. The book's 24 activities introduce educators to the *NGSS* terms, structure, and conceptual shifts; explore the practices and crosscutting concepts; help teachers work within the standards to support students challenged by traditional teaching; develop science road maps, essential questions, and assessments; and more.

© 2014; ISBN: 978-1-938946-18-9; 248 pages

#: PB350X	Members: \$31.04	Non-members: \$38.80
E-book #: PKEB350X	Members: \$23.28	Non-members: \$29.10
Book/E-book Set #: PKE350X	Members: \$37.24	Non-members: \$46.56



## Translating the NGSS for Classroom Instruction

Rodger W. Bybee | NSTA PRESS, GRADES K–12

This book provides essential guidance to everyone from teachers to school administrators to district and state science coordinators. It includes an introduction to the *NGSS*; examples of the standards translated to classroom instruction; and background, directions, and activities to help adapt current units of instruction to support the standards.

© 2013; ISBN: 978-1-938946-01-1; 194 pages

#: PB341X	Members: \$29.36	Non-members: \$36.70
E-book #: PKEB341X	Members: \$22.02	Non-members: \$27.52
Book/E-book Set #: PKE341X	Members: \$35.23	Non-members: \$44.04





## Next Generation Science Standards For States, by States

**NGSS Lead States** | NATIONAL ACADEMIES PRESS, GRADES K–12

Not since the release of *A Framework for K–12 Science Education* has a document held such promise and significance for science education as do the *Next Generation Science Standards (NGSS)*. Science—and therefore science education—is central to the lives of all Americans. When tracking current events, choosing and using technology, or making informed decisions about health care, science understanding is key. Science is also at the heart of the country’s ability to innovate, lead, and create the jobs of the future. All students—whether they become chefs, doctors, or researchers—must have a solid science education. The NGSS have been packaged as a two-volume set. The first volume includes the standards themselves—with spiral binding—and the second contains the appendices.

© 2013; ISBN: 978-0-309-27227-8; 400 pages (Vol. 1), 200 pages (Vol. 2)  
#: OP907X                      Members: \$44.96      Non-members: \$49.95



## The NSTA Reader’s Guide to the Next Generation Science Standards

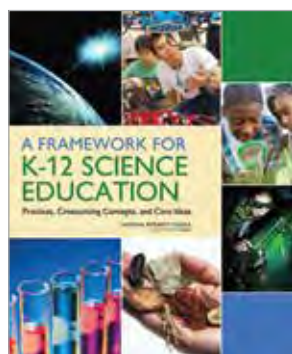
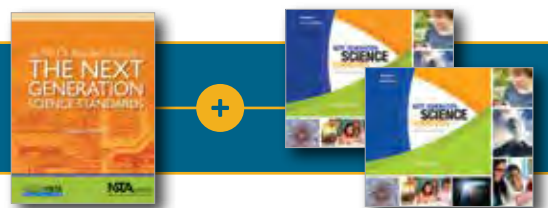
**Harold Pratt** | NSTA PRESS, GRADES K–12

The NGSS aim to better prepare U.S. students for the rigors of career and college-level scientific study by stressing the importance and integration of three dimensions: science and engineering practices, crosscutting concepts, and disciplinary core ideas. They will provide for a more integrated and cohesive approach to science instruction, leading to a more scientifically literate citizenry. The NGSS also mark a change in how we think about science instruction. The adoption of these new standards and their incorporation into instruction will require a significant amount of support. This easy-to-use *Reader’s Guide* offers teachers, principals, and district and state administrators—anyone with a vested interest in improving the quality of science education—the tools they need to fully absorb the new standards and begin to implement them effectively.

© 2013; ISBN: 978-1-938946-06-6; 42 pages  
#: PB340X                      Members: \$13.40      Non-members: \$16.75  
E-book #: PKEB340X                      Members: \$10.05      Non-members: \$12.56  
Book/E-book Set #: PKE340X                      Members: \$16.08      Non-members: \$20.10

**SAVE! Buy the NGSS and The NSTA Reader’s Guide!**

#: PK340X2      Members: \$57.57      Non-members: \$65.74

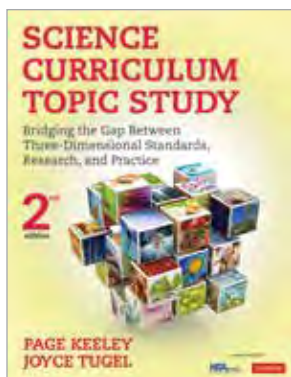


## A Framework for K–12 Science Education Practices, Crosscutting Concepts, and Core Ideas

**National Research Council** | NATIONAL ACADEMIES PRESS, GRADES K–12

*A Framework for K–12 Science Education* outlines an approach that will capture the interest of teachers and students and better prepare future generations. Written for science teachers, standards developers, curriculum designers, assessment developers, teacher educators, state and district science administrators, and informal educators, the *Framework* is the first step toward a research-grounded basis for improving science teaching and learning. Intended to be used with the *Next Generation Science Standards*, the *Framework* enables a deeper and more thorough understanding of the new standards and describes a broad set of expectations for students in science and engineering. These expectations have informed fundamental revisions to curriculum, instruction, assessment, and professional development for educators.

© 2012; ISBN: 978-0-309-21742-2; 320 pages  
#: OP901X                      Members: \$35.96      Non-members: \$39.95



## Science Curriculum Topic Study

*Bridging the Gap Between Three-Dimensional Standards, Research, and Practice, Second Edition*

Page Keeley and Joyce Tugel | NSTA PRESS AND CORWIN, GRADES K-12

The second edition of this bestseller is newly mapped to the *Framework* and NGSS and has been updated with new standards and research-based resources. It will help science educators make the shifts needed to reflect current practices in curriculum, instruction, and assessment. The new edition also has an increased emphasis on STEM, particularly engineering. The methodical study process described in this book will help readers intertwine content, practices, and crosscutting concepts.

© 2020; ISBN: 978-1-45224-464-8; 320 pages

#: PA004E2

Members: \$37.76

Non-members: \$47.20



## Seeing Students Learn Science

*Integrating Assessment and Instruction in the Classroom*

Alexandra Beatty and Heidi Schweingruber | NATIONAL ACADEMIES PRESS, GRADES K-12

The introduction of new science standards has led many states, schools, and districts to change curricula, instruction, and professional development. Assessment needs to change as well to measure active, engaged learning. *Seeing Students Learn Science* is meant to help educators create and implement classroom assessments so that they can better understand students' progress in a new vision of science learning. It includes examples of innovative assessment formats, ways to embed assessments in engaging classroom activities, and ideas for interpreting and using novel kinds of assessment information.

© 2017; ISBN: 978-0-309-44432-3; 124 pages

#: OP943X

Members: \$31.76

Non-members: \$34.95

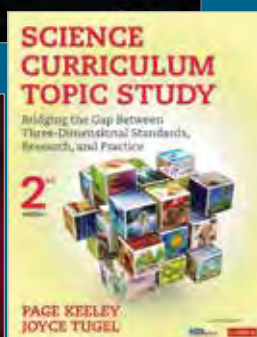
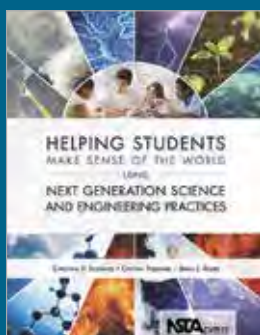
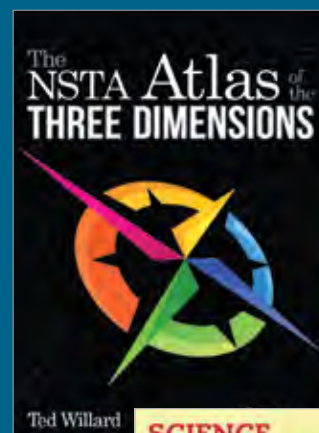
## SAVE! Buy these six top-selling resources together!

- *Disciplinary Core Ideas* (p. 27)
- *Helping Students Make Sense of the World* (p. 28)
- *NSTA Quick-Reference Guide to the NGSS, K-12* (p. 27)
- *Science Curriculum Topic Study* (above)
- *The NSTA Atlas* (p. 5)
- *Uncovering Student Ideas in Science, Volume 1, 2nd Ed.* (p. 9)

#: PKSCTS6

Members: \$201.27

Non-members: \$251.58







## Creating Engineering Design Challenges

### Success Stories From Teachers

Helen Meyer, Anant R. Kukreti, Debora Liberi, and Julie Steimle, Editors

NSTA PRESS | GRADES 6–12

The 13 units in *Creating Engineering Design Challenges* provide innovative ways to make science and math relevant to middle and high school students through challenge-based learning and the engineering design process. Content areas include biology, chemistry, physical science, and environmental science. Topics range from developing a recipe for cement to implementing geocaching to calculating accurate aim with slingshots and water balloons.

You can be sure the units are classroom-ready because they were contributed by the same teachers who developed, used, and revised them. They provide detailed accounts of their units as well as lesson plans and handouts. The book also offers guidance on fostering professional development to support and grow your school’s engineering education practice. Use it to help you change your classroom environment, empower students, and move toward a more student-centered classroom culture that leads to deeper learning.

© 2020; ISBN: 978-1-68140-698-5; 310 pages

#: <b>PB451X</b>	Members: <b>\$33.56</b>	Non-members: <b>\$41.95</b>
E-book #: <b>PKEB451X</b>	Members: <b>\$25.17</b>	Non-members: <b>\$31.46</b>
Book/E-book Set #: <b>PKE451X</b>	Members: <b>\$40.27</b>	Non-members: <b>\$50.34</b>



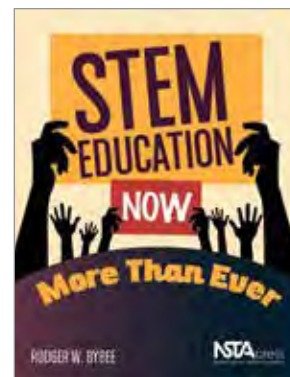
## STEM Education Now More Than Ever

Rodger W. Bybee | NSTA PRESS, GRADES K–12

In this book, veteran educator Rodger W. Bybee has written a book that’s as thought-provoking as it is constructive. He explains that science educators must address STEM issues at local, national, and global levels. And teachers should help students tackle today’s problems with new approaches to STEM learning that complement traditional single-discipline programs. Parts of the book are what you might expect from a longtime thought leader in science education. In light of the 2016 election and recent assaults on science’s validity, Bybee strongly asserts the need for making a new case for STEM education. Other parts may not seem typical for a book on STEM. He writes about the Enlightenment, the U.S. Constitution, democracy, and citizenship as reminders of the effects of STEM disciplines on America’s foundational ideas and values. In the end, Bybee ties it all together with positive, practical recommendations. A major one involves newer, faster ways to help teachers develop STEM units that address contemporary challenges in their classes. Another involves the importance of strong leadership from teachers and the STEM education community.

© 2018; ISBN: 978-1-68140-601-5; 159 pages

#: <b>PB437X</b>	Members: <b>\$25.16</b>	Non-members: <b>\$31.45</b>
E-book #: <b>PKEB437X</b>	Members: <b>\$18.87</b>	Non-members: <b>\$23.58</b>
Book/E-book Set #: <b>PKE437X</b>	Members: <b>\$30.19</b>	Non-members: <b>\$37.74</b>



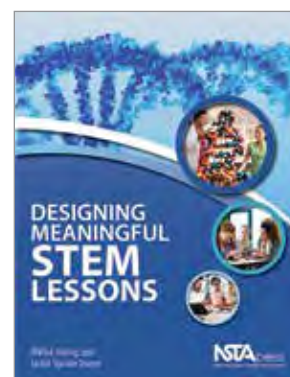
## Designing Meaningful STEM Lessons

Milton Huling and Jackie Speake Dwyer | NSTA PRESS, GRADES 3–8

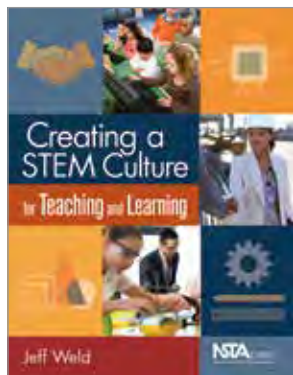
This book shows you how to take lessons you’re already familiar with and, through small changes, do what the title says: Design STEM lessons that are actually meaningful for teaching and learning science. You can also make sure your STEM lessons contain the content students need to learn. The book’s foundation is a conceptual framework that keeps science front and center, showing you how to embed engineering, technology, and science applications in your lessons—similar to how you would embed literacy skills in your classwork. *Designing Meaningful STEM Lessons* provides 13 ready-to-use lessons in physical science, life science, and Earth and space science. The lessons have titles such as “Cell-fie” and “Aircraft Catapult.” All correlate with the *Framework*, take a constructivist approach, and operate within the 5E instructional model.

© 2018; ISBN: 978-1-68140-556-8; 199 pages

#: <b>PB436X</b>	Members: <b>\$20.96</b>	Non-members: <b>\$26.20</b>
E-book #: <b>PKEB436X</b>	Members: <b>\$15.72</b>	Non-members: <b>\$19.65</b>
Book/E-book Set #: <b>PKE436X</b>	Members: <b>\$25.15</b>	Non-members: <b>\$31.44</b>







## Creating a STEM Culture for Teaching and Learning

Jeff Weld | NSTA PRESS, GRADES K-12

Author Jeff Weld channels the wisdom of professionals in education, business, and government to bring you the theory and policy behind nationally recognized education models for STEM. Sprinkled with lighthearted case studies, the book covers everything from why STEM matters to what STEM means.

© 2017; ISBN: 978-1-68140-396-0; 180 pages

#: PB429X	Members: <b>\$31.88</b>	Non-members: <b>\$39.85</b>
E-book #: PKEB429X	Members: <b>\$23.91</b>	Non-members: <b>\$29.88</b>
Book/E-book Set #: PKE429X	Members: <b>\$38.25</b>	Non-members: <b>\$47.82</b>



## Everyday Engineering Series

### Putting the E in STEM Teaching and Learning

Richard H. Moyer and Susan A. Everett | NSTA PRESS JOURNALS COLLECTIONS, GRADES 6-8

Spark curiosity with appealing, hands-on activities that will help middle schoolers understand that engineering truly is a part of their everyday lives. Each investigation is a complete lesson that includes in-depth teacher background information, expected sample data, a materials list, and a student activity sheet for recording results.



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Members: **\$12.57**  
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Book/E-book  
Members: **\$20.11**  
Non-members: **\$25.14**



## Everyday Engineering

© 2012; ISBN: 978-1-936137-19-0; 118 pages

#: PB306X	E-book #: PKEB306X
Book/E-book Set #: PKE306X	

## More Everyday Engineering

© 2016; ISBN: 978-1-68140-278-9; 122 pages

#: PB306X2	E-book #: PKEB306X2
Book/E-book Set #: PKE306X2	

**SAVE!** Buy *Everyday Engineering* and *More Everyday Engineering* together!

#: PK306X2    Members: **\$31.85**    Non-members: **\$39.81**



## The Case for STEM Education

### Challenges and Opportunities

Rodger W. Bybee | NSTA PRESS, GRADES K-12

This book outlines the challenges facing STEM education. It is a must-read for national and state policy makers, state-level educators, college and university faculty who educate STEM teachers, administrators who make decisions about district and school programs, and teachers who represent STEM disciplines.

© 2013; ISBN: 978-1-936959-25-9; 116 pages

#: PB337X	Members: <b>\$25.16</b>	Non-members: <b>\$31.45</b>
E-book #: PKEB337X	Members: <b>\$18.87</b>	Non-members: <b>\$23.58</b>
Book/E-book Set #: PKE337X	Members: <b>\$30.19</b>	Non-members: <b>\$37.74</b>



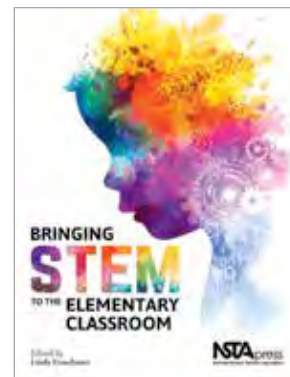
## Bringing STEM to the Elementary Classroom

Linda Froschauer, Editor | AN NSTA PRESS JOURNALS COLLECTION, GRADES PREK-5

This book is a comprehensive source of classroom-tested STEM investigations. The 36 lessons are conveniently organized into grade-level bands; grounded in research; designed to encourage learning across disciplines, promote problem-solving skills, introduce children to STEM careers, and serve all students equally well; and connected to all elements of the NGSS.

© 2016; ISBN: 978-1-68140-030-3; 324 pages

#: <b>PB413X</b>	Members: <b>\$30.20</b>	Non-members: <b>\$37.75</b>
E-book #: <b>PKEB413X</b>	Members: <b>\$22.65</b>	Non-members: <b>\$28.31</b>
Book/E-book Set #: <b>PKE413X</b>	Members: <b>\$36.24</b>	Non-members: <b>\$45.30</b>



*“The editor, a veteran classroom teacher and educator, was aware of the need to include not only well-designed lessons, but also the strategies that elementary teachers need to implement the lessons and additional resources such as websites and references. Bringing STEM to the Elementary Classroom is an excellent resource for elementary classrooms as well as educators who work with elementary-aged children.”*



—NSTA Recommends

## Doing Good Science in Middle School, Expanded 2nd Edition

### A Practical STEM Guide

Olaf Jorgenson, Rick Vanosdall, Vicki Massey, and Jackie Cleveland | NSTA PRESS, GRADES 6-8

*Doing Good Science* is a comprehensive resource that covers big-picture concepts such as understanding the middle school learner and exploring the nature of science. It provides 10 sample activities to develop engaging lessons integrating STEM and 5E instruction with the standards. The authors give specific guidance on classroom management, safety, and how to use collaborative table groups and science lab notebooks. The new edition shares the same goal as the popular first edition: to prove that good science is compatible with noisy, bustling, insatiably curious middle schoolers.

© 2014; ISBN: 978-1-938946-07-3; 245 pages

#: <b>PB183E2</b>	Members: <b>\$31.04</b>	Non-members: <b>\$38.80</b>
E-book #: <b>PKEB183E2</b>	Members: <b>\$23.28</b>	Non-members: <b>\$29.10</b>
Book/E-book Set #: <b>PKE183E2</b>	Members: <b>\$37.24</b>	Non-members: <b>\$46.56</b>



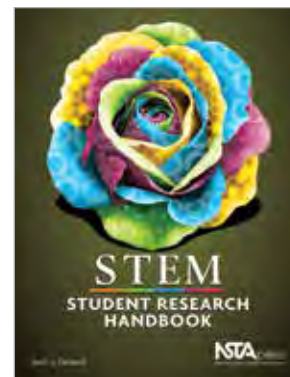
## STEM Student Research Handbook

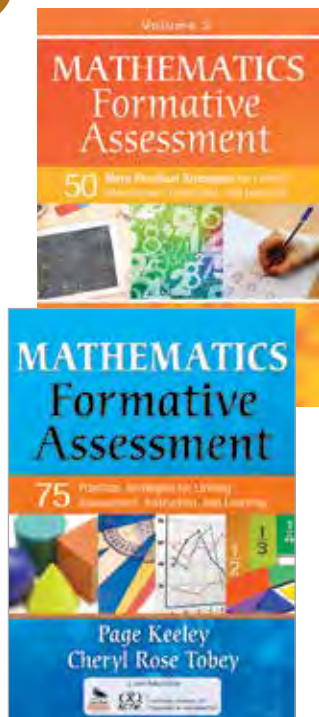
Darci J. Harland | NSTA PRESS, GRADES 9-12

This valuable handbook outlines the stages of large-scale science research projects. Twelve chapters cover all aspects of development—generating ideas, creating research design, writing proposals, conducting experiments, interpreting data, and presenting results. Also included are student handouts as well as an appendix with checklists, observations sheets, and sample assessment rubrics.

© 2011; ISBN: 978-1-936137-24-4; 218 pages

#: <b>PB297X</b>	Members: <b>\$26.00</b>	Non-members: <b>\$32.50</b>
E-book #: <b>PKEB297X</b>	Members: <b>\$19.50</b>	Non-members: <b>\$24.37</b>
Book/E-book Set #: <b>PKE297X</b>	Members: <b>\$31.20</b>	Non-members: <b>\$39.00</b>





## Mathematics Formative Assessment, Volumes 1 and 2

### Practical Strategies for Linking Assessment, Instruction, and Learning

Page Keeley and Cheryl Rose Tobey | CORWIN AND NCTM PRESS, GRADES K–12

Award-winning author Page Keeley and mathematics expert Cheryl Rose Tobey apply the format of Keeley's bestselling *Science Formative Assessment* (p. 41) to mathematics. They show teachers how to use formative assessment strategies to inform instructional planning and better meet the needs of all students and provide guidance with each technique. Research shows that formative assessment has the power to significantly improve learning, and its many benefits include stimulation of metacognitive thinking, increased student engagement, insights into student thinking, and development of a discourse community. Volume 1 includes 75 strategies, and volume 2 provides 50 more strategies.

Volume 1: © 2011; ISBN: 978-1-4129-6812-6; 256 pages

Volume 2: © 2017; ISBN: 978-1-506311-39-5; 256 pages

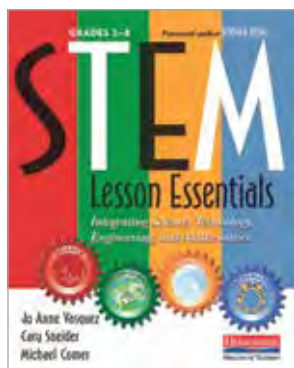
#: OP905X (Vol. 1) / OP905X2 (Vol. 2) Members: \$33.26 Non-members: \$36.95

**SAVE! Buy both volumes together!**

#: OK905X2

Members: \$66.35

Non-members: \$73.72



## STEM Lesson Essentials

### Integrating Science, Technology, Engineering, and Mathematics

Jo Anne Vasquez, Cary Sneider, and Michael Comer | HEINEMANN, GRADES 3–8

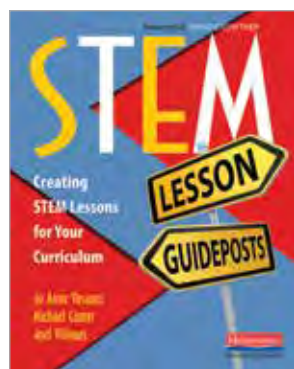
This book provides all the strategies you'll need to design integrated, interdisciplinary STEM lessons and units that are relevant and exciting to your students. The book shows teachers how to begin the STEM integration journey with five guiding principles for effective STEM instruction, classroom examples of what these principles look like in action, sample activities that put all four STEM fields into practice, and lesson planning templates for STEM units. Explicit connections are made among the STEM practices, including the *Common Core State Standards* for mathematics and the *Framework*.

© 2013; ISBN: 978-0-325-04358-6; 196 pages

#: OP909X

Members: \$24.36

Non-members: \$26.95



## STEM Lesson Guideposts

### Creating STEM Lessons for Your Curriculum

Jo Anne Vasquez, Michael Comer, and Joel Villegas | HEINEMANN, GRADES 3–8

This companion to the bestselling *STEM Lesson Essentials* (above) will help you move from thinking about *what STEM is* to the *how* of constructing impactful STEM lessons and units. The authors developed the W.H.E.R.E. planning model—five interrelated guideposts that provide structure and guidance for conceiving, creating, and organizing STEM experiences. You'll learn to create hands-on, inquiry-focused experiences using your own curriculum and standards and develop STEM lessons that are not only rigorous but also relevant to your students.

© 2017; ISBN: 978-0325087764; 144 pages

#: OP944X

Members: \$22.66

Non-members: \$24.95



## Instructional Sequence Matters

Patrick Brown | NSTA PRESS, GRADES 3–8

Instructional sequence definitely does matter when it comes to helping children learn science. That's why these books focus on showing you how to do two things: (1) make simple shifts in the way you arrange and combine activities and (2) put the *Next Generation Science Standards* (NGSS) into practice. Both the elementary and middle school volumes give you a complete self-guided tour to becoming an “explore-before-explain” teacher. When you adopt this teaching mindset, you'll help your students construct accurate knowledge firsthand—an important part of science learning at all grade levels.

*Instructional Sequence Matters* is grounded in two research-based approaches: POE (Predict, Observe, and Explain) and 5E (Engage, Explore, Explain, Elaborate, and Evaluate). Author Patrick Brown starts by describing why the order in which you structure your lessons is so critical. Then you'll learn how to plan and design these instructional sequences yourself. Ready-to-use lessons will help you turn theory into action when you're teaching. Detailed examples show how specific aspects of all three dimensions of the NGSS can translate in your classroom. Reflection questions throughout the books challenge you to embrace and adapt the new approaches.

“Not only is *Instructional Sequence Matters* a delightful read, but it is also practical and helpful,” Rodger W. Bybee, author of *The BSCS 5E Instructional Model* (p. 36), writes in the foreword. “What more could science teachers ask for?” Each of these books is a one-stop teaching resource for developing lessons that support both the NGSS and contemporary research on how students learn science best.



Book

Members: **\$21.80**  
Non-members: **\$27.25**



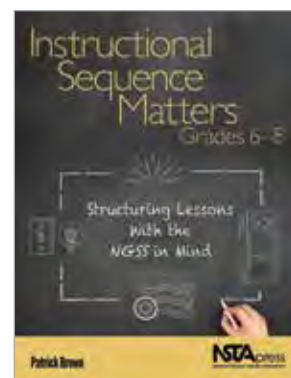
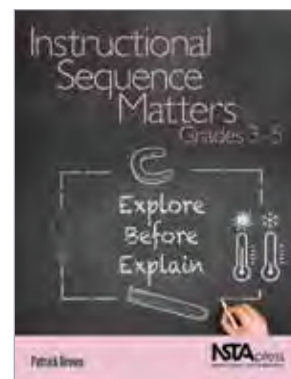
E-book

Members: **\$16.35**  
Non-members: **\$20.43**



Book/E-book

Members: **\$26.16**  
Non-members: **\$32.70**



### Instructional Sequence Matters, Grades 3–5

#### Explore Before Explain

Topics include heat and temperature, magnetism, electric circuits, chemical changes, ecosystems, Earth processes, and more!

© 2020; ISBN: 978-1-68140-658-9; 136 pages

#: PB438X2

E-book #: PKEB438X2

Book/E-book Set #: PKE438X2

### Instructional Sequence Matters, Grades 6–8

#### Structuring Lessons With the NGSS in Mind

Topics include heat and temperature, magnetism, electric circuits, force and motion, and more!

© 2018; ISBN: 978-1-68140-584-1; 103 pages

#: PB438X

E-book #: PKEB438X

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## Supporting Emergent Multilingual Learners in Science, Grades 7–12

Molly Weinburgh, Cecilia Silva, and Kathy Horak Smith | NSTA PRESS, GRADES 7–12

Here's the resource you need for down-to-earth help for emergent multilingual learners—students learning science as well as English. Based on solid research findings, this book shows you how to put into practice the 5R Instructional Model: Replace, Reveal, Repeat, Reposition, and Reload. The model provides a framework for creating instructional strategies that offer authentic language-learning opportunities within your inquiry-based science classroom. This book provides useful context about the need for integrating science and language and lets you learn from colleagues who've used the 5R model.

© 2019; ISBN: 978-1-68140-481-3; 118 pages

#: PB446X

Members: **\$26.84**

Non-members: **\$33.55**

E-book #: PKEB446X

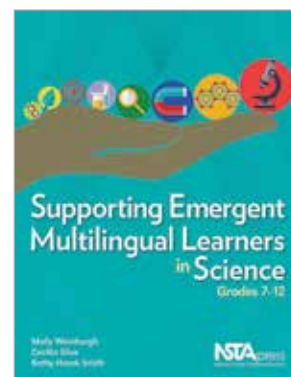
Members: **\$20.13**

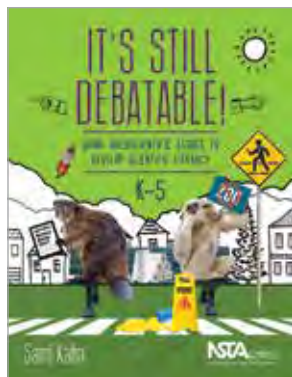
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Book/E-book Set #: PKE446X

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## It's Still Debatable!

### Using Socioscientific Issues to Develop Scientific Literacy, K-5

Sami Kahn | NSTA PRESS, GRADES K-5

Is football too dangerous for kids? Do we need zoos? Should distracted walking be illegal? These are the types of real-world questions that young scientists can explore with *It's Still Debatable!* The book uses science-related societal issues, or socioscientific issues, to help your K-5 students develop scientific literacy as you encourage them to become informed citizens. The 14 classroom-tested lesson plans support the NGSS and link to the *Common Core State Standards*, *National Curriculum Standards for Social Studies*, and *C3 Framework*. Like its counterpart for grades K-12 (see below), it engages students through hands-on investigations, research, debates, role-playing, and discussions. This teach-ready resource gives you clear and accessible background information, practical guidance on how to use the lessons, and developmentally appropriate assessments and handouts.

© 2019; ISBN: 978-1-68140-629-9; 525 pages

#: PB347X2	Members: <b>\$37.76</b>	Non-members: <b>\$47.20</b>
E-book #: PKEB347X2	Members: <b>\$28.32</b>	Non-members: <b>\$35.40</b>
Book/E-book Set #: PKE347X2	Members: <b>\$45.31</b>	Non-members: <b>\$56.64</b>



## It's Debatable!

### Using Socioscientific Issues to Develop Scientific Literacy, K-12

Dana L. Zeidler and Sami Kahn | NSTA PRESS, GRADES K-12

Should governments lower speed limits to reduce traffic fatalities? Should pharmaceutical companies be allowed to advertise prescription drugs directly to consumers? Students will explore real-world questions using the Socioscientific Issues Framework. This book encourages scientific literacy and supports the NGSS by giving students practice in research, analysis, and argumentation and by confronting just how messy the questions raised by science (and pseudoscience) can be. See the elementary volume above.

© 2014; ISBN: 978-1-938946-00-4; 304 pages

#: PB347X	Members: <b>\$31.88</b>	Non-members: <b>\$39.85</b>
E-book #: PKEB347X	Members: <b>\$23.91</b>	Non-members: <b>\$29.88</b>
Book/E-book Set #: PKE347X	Members: <b>\$38.25</b>	Non-members: <b>\$47.82</b>



## Dive In!

### Immersion in Science Practices for High School Students

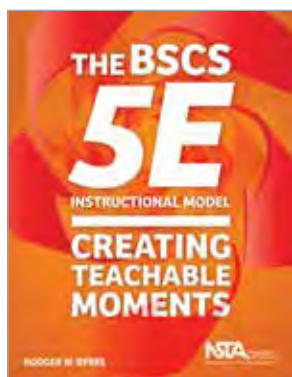
Karen J. Graham, Lara M. Gengarelly, Barbara A. Hopkins, and Melissa A. Lombard

NSTA PRESS, GRADES 9-12

*Dive In!* provides detailed examples of how veteran teachers and their students can make the leap to implementing the recommendations of the *Framework* and the NGSS. Its vignettes offer authentic perspectives about conducting student investigations and integrating science practices. Its field-tested activities illustrate a range of investigations you can adopt or adapt.

© 2017; ISBN: 978-1-941316-29-0; 288 pages

#: PB410X	Members: <b>\$30.20</b>	Non-members: <b>\$37.75</b>
E-book #: PKEB410X	Members: <b>\$22.65</b>	Non-members: <b>\$28.31</b>
Book/E-book Set #: PKE410X	Members: <b>\$36.24</b>	Non-members: <b>\$45.30</b>



## The BSCS 5E Instructional Model

### Creating Teachable Moments

Rodger W. Bybee | NSTA PRESS, GRADES K-12

The popular BSCS 5E Instructional Model includes five phases: *engage*, *explore*, *explain*, *elaborate*, and *evaluate*. In addition to offering a clear explanation of how to use the model, the book elaborates on how the model connects to the NGSS, STEM education, and 21st-century skills.

© 2015; ISBN: 978-1-941316-00-9; 126 pages

#: PB356X	Members: <b>\$29.36</b>	Non-members: <b>\$36.70</b>
E-book #: PKEB356X	Members: <b>\$22.02</b>	Non-members: <b>\$27.52</b>
Book/E-book Set #: PKE356X	Members: <b>\$35.23</b>	Non-members: <b>\$44.04</b>

## The Feedback Loop

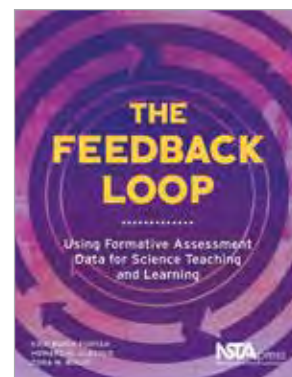
### Using Formative Assessment Data for Science Teaching and Learning

Erin Marie Furtak, Howard M. Glasser, and Zora M. Wolfe | NSTA PRESS, GRADES 6–12

This book introduces the Feedback Loop framework; highlights the four elements of goals, tools, data, and inferences; explores how to connect inferences and goals through feedback; and shows how to use the loop to inform instruction. The book supports the NGSS.

© 2016; ISBN: 978-1-941316-14-6; 175 pages

#: PB405X	Members: \$30.20	Non-members: \$37.75
E-book #: PKEB405X	Members: \$22.65	Non-members: \$28.31
Book/E-book Set #: PKE405X	Members: \$36.24	Non-members: \$45.30



## Yet More Everyday Science Mysteries

Richard Konicek-Moran | NSTA PRESS, GRADES K–8

Everybody loves a mystery—and thousands of teachers love how *Yet More Everyday Science Mysteries* gets students engaged in real phenomena about science content. It includes activities about physical science, biology, Earth systems, technology, and more! Author Richard Konicek-Moran uses each mystery to present opportunities for students to ask questions, form hypotheses, test ideas, and come up with explanations. Konicek-Moran engages students by grounding the stories in familiar experiences that provide a foundation for discussion.

The popular *Everyday Science Mysteries* series is available in two different sets to fit teachers' needs: The original four-volume series covers an array of topics in each book, and a three-volume set comprises topic-specific books for physical, life, and Earth and space science. Chapters include science concepts to explore, grade-appropriate strategies for using the stories, and explanations of how the lessons support standards. Learn more about all seven books in the series at [www.nsta.org/book-series/everyday-science-mysteries](http://www.nsta.org/book-series/everyday-science-mysteries).

© 2011; ISBN: 978-1-936137-11-4; 198 pages

#: PB220X4	Members: \$21.80	Non-members: \$27.25
E-book #: PKEB220X4	Members: \$16.35	Non-members: \$20.43
Book/E-book Set #: PKE220X4	Members: \$26.16	Non-members: \$32.70



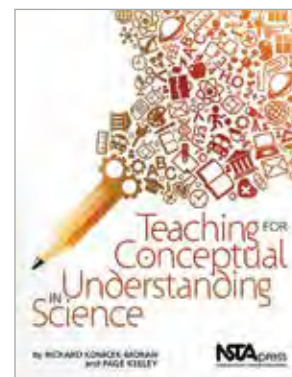
## Teaching for Conceptual Understanding in Science

Richard Konicek-Moran and Page Keeley | NSTA PRESS, GRADES K–12

This book will make you think about what the authors call “the major goal of science education in the 21st century”: to help students understand science at the conceptual level so they can see its connections to other fields, other concepts, and their lives.

© 2015; ISBN: 978-1-938946-10-3; 248 pages

#: PB359X	Members: \$30.20	Non-members: \$37.75
E-book #: PKEB359X	Members: \$22.65	Non-members: \$28.31
Book/E-book Set #: PKE359X	Members: \$36.24	Non-members: \$45.30



## Becoming a Responsive Science Teacher

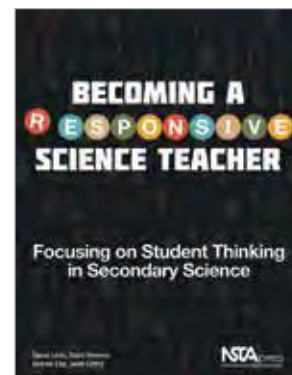
### Focusing on Student Thinking in Secondary Science

Daniel Levin, David Hammer, Andrew Elby, and Janet Coffey | NSTA PRESS, GRADES 9–12

Through five case studies, learn how you can shift from the traditional method—presenting material that you hope students will retain—to “responsive listening”—attuning your teaching to the substance of students’ reactions to your lessons and helping them learn how to learn science.

© 2013; ISBN: 978-1-936959-05-1; 214 pages

#: PB323X	Members: \$25.16	Non-members: \$31.45
E-book #: PKEB323X	Members: \$18.87	Non-members: \$23.58
Book/E-book Set #: PKE323X	Members: \$30.19	Non-members: \$37.74







## Hard-to-Teach Science Concepts

### A Framework to Support Learners, Grades 3–5

Susan Koba and Carol T. Mitchell | NSTA PRESS, GRADES 3–5

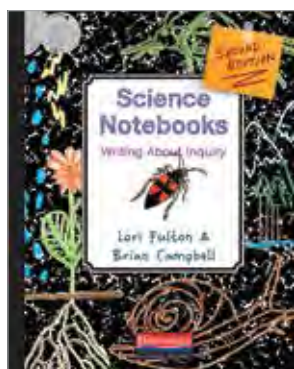
Four actions make up the methodology in this book: Engage students about their preconceptions and address and dispel misconceptions, target lessons to be learned, determine appropriate strategies, and use standards-based teaching that builds on student understandings. With the framework comes examples of application, specifically on the flow of energy and matter in ecosystems, force and motion, matter and its transformation, and Earth's shape.

© 2011; ISBN: 978-1-936137-15-2; 256 pages

#: PB238X2	Members: \$28.52	Non-members: \$35.65
E-book #: PKEB238X2	Members: \$21.39	Non-members: \$26.73
Book/E-book Set #: PKE238X2	Members: \$34.22	Non-members: \$42.78

*“Teaching science for me is a passion. I love wondering and asking questions. Passing this passion on to my students is both fun and challenging! There is absolutely never a dull moment.”*

—NSTA Press reader Christine V.



## Science Notebooks, Second Edition

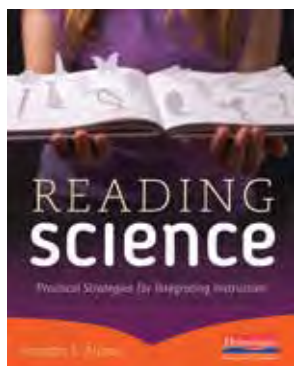
### Writing About Inquiry

Lori Fulton and Brian Campbell | HEINEMANN, GRADES K–5

This book inspires teachers to use science notebooks to support implementation of the standards and help students reveal and develop their thinking about scientific concepts, engage in the work of scientists and engineers, and exercise language skills. Chapter materials include strategies to scaffold science notebook instruction, approaches for collecting and analyzing notebooks for formative assessment, student samples and classroom vignettes, and new interviews with scientists and engineers that spotlight the use of notebooks in their work.

© 2014; ISBN: 978-0-325-05659-3; 136 pages

#: OP914X	Members: \$21.36	Non-members: \$23.75
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## Reading Science

### Practical Strategies for Integrating Instruction

Jennifer L. Altieri | HEINEMANN, GRADES 4–8

Filled with practical strategies customized for science classrooms, this book supports teaching students to be critical consumers of scientific information; developing students' interest in scientific vocabulary; and encouraging collaboration as students seek answers to scientific questions and communicate their findings. With *Reading Science*, teachers can use literacy as a tool to help students access science content, communicate their ideas precisely, and apply their discoveries in new contexts.

© 2016; ISBN: 978-0-325-06258-7; 130 pages

#: OP940X	Members: \$21.56	Non-members: \$23.95
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## Making Sense of Science and Religion Strategies for the Classroom and Beyond

Joseph W. Shane, Lee Meadows, Ronald S. Hermann, and Ian C. Binns | NSTA PRESS, GRADES K-12

It's inevitable: If your lessons deal with evolution, genetics, the origin of the universe, or climate change, some students are bound to question whether they can reconcile what you teach with what they believe about religion. This book is divided into three parts: (1) some historical and cultural background as well as a framework for addressing science-religion issues in a legal, constitutional manner; (2) guidance on teaching specific scientific concepts at every grade level; and (3) advice for engaging families, administrators, school boards, policy makers, and faith communities.

© 2020; ISBN: 978-1-68140-576-6; 217 pages

#: PB447X	Members: \$21.80	Non-members: \$27.25
E-book #: PKEB447X	Members: \$16.35	Non-members: \$20.43
Book/E-book Set #: PKE447X	Members: \$26.16	Non-members: \$32.70

## Staging Family Science Nights

Donna Governor and Denise Webb | NSTA PRESS, GRADES K-12

This is your playbook for generating enthusiasm and enjoyment of science among the entire family. It's useful for teachers, homeschoolers, and informal education programs. The book's first section covers planning, recruiting volunteers, setting up, troubleshooting, and injecting pizzazz. The second section offers guidance and templates for science night activities at all levels.

© 2019; ISBN: 978-1-68140-623-7; 204 pages

#: PB443X	Members: \$26.84	Non-members: \$33.55
E-book #: PKEB443X	Members: \$20.13	Non-members: \$25.16
Book/E-book Set #: PKE443X	Members: \$32.20	Non-members: \$40.26

## Perspectives on Science Education

### A Leadership Seminar

Rodger W. Bybee and Stephen L. Pruitt | NSTA PRESS, GRADES K-12

Authors Rodger W. Bybee and Stephen L. Pruitt are two of science education's most prominent thought leaders. Writing in a conversational style, they encourage you to ponder central concerns of the science education community in general and science teachers in particular. The book starts with an introduction to perspectives, challenges, standards, and leadership—themes that weave throughout the book. After a brief history of science education, Bybee and Pruitt cover some of the current issues and topics in education, such as state standards and district leadership, curriculum programs, professional development, and assessment and accountability. *Perspectives on Science Education* is certain to launch professional conversations that will contribute to a deeper understanding of science education and strengthen your desire and ability to lead.

© 2017; ISBN: 978-1-941316-30-6; 404 pages

#: PB424X	Members: \$35.96	Non-members: \$44.95
E-book #: PKEB424X	Members: \$26.97	Non-members: \$33.71
Book/E-book Set #: PKE424X	Members: \$43.15	Non-members: \$53.94

## Be a Winner!

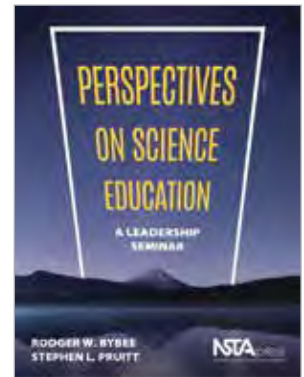
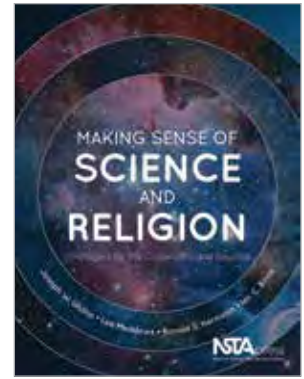
### A Science Teacher's Guide to Writing Successful Grant Proposals

Patty McGinnis and Kitchka Petrova | NSTA PRESS, GRADES K-12

Formatted as a handy workbook, *Be a Winner!* takes you step by step through the writing process. You'll learn the top 10 reasons to write a grant proposal, how to identify and refine proposal ideas, the basic components of every proposal, the ins and outs of submitting a proposal, and how to manage a funded project. Appendixes provide you with writing templates, a grant proposal rubric, science-related grant listings and teaching awards, and more.

© 2016; ISBN: 978-1-68140-001-3; 136 pages

#: PB412X	Members: \$30.20	Non-members: \$37.75
E-book #: PKEB412X	Members: \$22.65	Non-members: \$28.31
Book/E-book Set #: PKE412X	Members: \$36.24	Non-members: \$45.30





## Building the Science Department

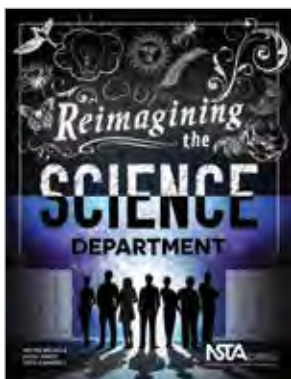
### Stories of Success

Wayne Melville, Doug Jones, and Todd Campbell | NSTA PRESS, GRADES 6–12

This book explains how your science department can become a site for developing science teachers' professional learning. The first part of the book covers scientific activity as represented in the Framework and the NGSS and its role in making the science department a place for building professional learning. The second part uses teacher vignettes to work through the components of a professional learning framework—context, content, activities, and processes. After each vignette is a commentary and questions to challenge teachers to improve their instructional practices and align them with current reform initiatives.

© 2017; ISBN: 978-1-68140-274-1; 147 pages

#: PB426X	Members: \$25.16	Non-members: \$31.45
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Book/E-book Set #: PKE426X	Members: \$30.19	Non-members: \$37.74



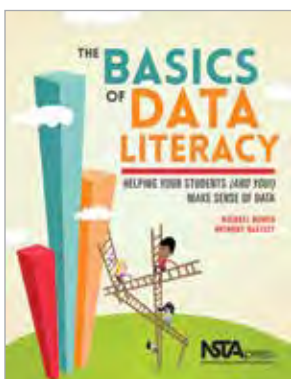
## Reimagining the Science Department

Wayne Melville, Doug Jones, and Todd Campbell | NSTA PRESS, GRADES 6–12

*Reimagining the Science Department* invites you to reassess past and current practices in science departments. The text offers rich historical perspective, and you'll come away with sensible strategies—bolstered by practitioner vignettes and related research—that your entire department can put to work right away. See also the authors' latest NSTA Press book, *Building the Science Department* (above).

© 2015; ISBN: 978-1-938946-32-5; 118 pages

#: PB357X	Members: \$25.16	Non-members: \$31.45
E-book #: PKEB357X	Members: \$18.87	Non-members: \$23.58
Book/E-book Set #: PKE357X	Members: \$30.19	Non-members: \$37.74



## The Basics of Data Literacy

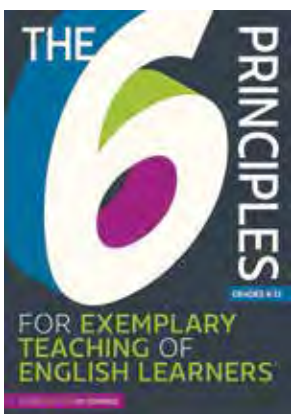
### Helping Your Students (and You!) Make Sense of Data

Michael Bowen and Anthony Bartley | NSTA PRESS, GRADES 6–12

This is the ideal book for teachers with no statistics background. *The Basics of Data Literacy* teaches you how to help your students understand, collect, summarize, and analyze statistics inside and outside the classroom. The 10 chapters provide an introduction to types of variables and data, ways to structure and interpret data tables, simple statistics, and survey basics, and appendixes include hands-on activities.

© 2014; ISBN: 978-1-938946-03-5; 171 pages

E-book #: PKEB343X	Members: \$20.76	Non-members: \$25.95
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## The 6 Principles for Exemplary Teaching of English Learners

TESOL International Association Writing Team | TESOL PRESS, GRADES K–12

The 6 Principles are universal guidelines drawn from decades of research in language pedagogy and language acquisition theory. They provide an evidence-based foundation for schools to examine their own instructional practice and work collaboratively to enable English learners to acquire strong social and academic language proficiency. The principles are applicable across different educational settings. The book includes essential information on language development and second language acquisition, practical applications of the 6 Principles for K–12 classrooms, access to informational videos and additional online resources for educators and educational personnel, and more.

© 2018; ISBN: 978-1945351303; 142 pages

#: OP946X	Members: \$26.05	Non-members: \$28.95
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## What Are They Thinking?

### Promoting Elementary Learning Through Formative Assessment

Page Keeley | AN NSTA PRESS JOURNALS COLLECTION, GRADES PREK-5

This compendium of 30 “Formative Assessment Probes” columns from NSTA’s *Science and Children* provides sample probes—sets of interesting questions that root out commonly held (and often mistaken) ideas. Students’ answers will help you figure out how to guide them from where they are conceptually to where they need to be. Teacher notes tell you how to encourage evidence-based discussion and monitor students’ progress. For each column, Page Keeley, the award-winning author of NSTA’s best-selling *Uncovering Student Ideas in Science* series (pp. 9–11), has added a set of study group questions.

© 2014; ISBN: 978-1-938946-25-7; 226 pages

#: PB348X	Members: \$31.88	Non-members: \$39.85
E-book #: PKEB348X	Members: \$23.91	Non-members: \$29.88
Book/E-book Set #: PKE348X	Members: \$38.25	Non-members: \$47.82



“I just love using probes and uncovering misconceptions students have [about] science concepts. Science topics are not always easy for non-science oriented educators to wrap their heads around, and we need all the resources we can get!”



—NSTA Press reader Susan P.

## Science Formative Assessment, Volume 1, Second Edition

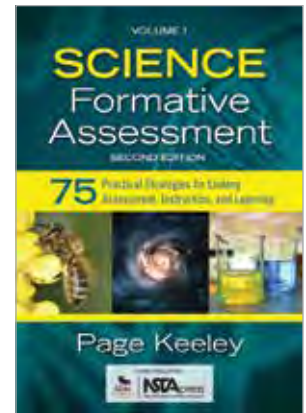
### 75 Practical Strategies for Linking Assessment, Instruction, and Learning

Page Keeley | CORWIN AND NSTA PRESS, GRADES K-12

Page Keeley wrote *Science Formative Assessment* to help educators weave formative assessment into instruction and learning. In the second edition of the bestselling first volume, she provides new examples, links the strategies to current research and standards, and shows how these techniques can be used across other disciplines. The formative assessment classroom techniques (FACTs) include descriptions of how each FACT promotes learning and informs instruction, implementation guidance, modifications for different learners, and more.

© 2016; ISBN: 978-1-483352-17-6; 384 pages

#: PA011X1E2	Members: \$31.04	Non-members: \$38.80
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## Science Formative Assessment, Volume 2

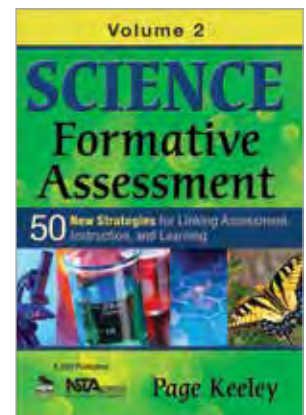
### 50 New Strategies for Linking Assessment, Instruction, and Learning

Page Keeley | CORWIN AND NSTA PRESS, GRADES K-12

This book shows how to use assessment to inform instruction and learning in the science classroom. Volume 2 presents 50 new strategies linked to the NGSS that will help teachers determine students’ understanding of key concepts and design learning opportunities. These assessments can be used with any science curriculum and include a description of how each technique promotes learning; considerations for design and implementation; modifications for different types of students or purposes; caveats for using each technique; and ways the techniques can be used in other content areas.

© 2015; ISBN: 978-1-452270-25-8; 256 pages

#: PA011X2	Members: \$31.04	Non-members: \$38.80
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**SAVE!** Buy the *Science Formative Assessment* volumes together!

#: PAK011X2	Members: \$57.38	Non-members: \$71.73
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## Eureka! Series

Introduce skill-building inquiry investigations with the *Eureka!* series. At the books' core are more than two dozen lessons that connect science content to children's trade book biographies of scientists and engineers. Some of these individuals are famous (such as George Washington Carver, Albert Einstein, and Jane Goodall), whereas others are not as well known (such as paleontologist Mary Anning, astronomer Annie Jump Canon, and engineer William Kamkwamba). The lessons are designed to support the NGSS and be appealing and easy to use. Chapters delve into the practices of science and engineering, such as how to ask questions and define problems, plan and conduct investigations, and analyze and interpret data. With engaging lessons, even the youngest students can make an important discovery: Scientists aren't stereotypes wearing goggles and lab coats. They are both women and men whose work and success stem from their life experiences and character traits.



Book  
Members: **\$37.76**  
Non-members: **\$47.20**



E-book  
Members: **\$28.32**  
Non-members: **\$35.40**



Book/E-book  
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Non-members: **\$56.64**



### Eureka, Again! K–2 Science Activities and Stories

Donna Farland-Smith and Julie Thomas | GRADES K–2

© 2018; ISBN: 978-1-68140-316-8; 320 pages  
#: PB423X2 E-book #: PKEB423X2 Book/E-book Set #: PKE423X2

### Eureka! Grade 3–5 Science Activities and Stories

Donna Farland-Smith and Julie Thomas | GRADES 3–5

© 2017; ISBN: 978-1-68140-257-4; 374 pages  
#: PB423X1 E-book #: PKEB423X1 Book/E-book Set #: PKE423X1



### Eureka! Book Collections

For each *Eureka!* volume, NSTA offers a collection of the related children's trade books. The books fit inside a zippered canvas tote bag with a screened image of the book cover on it. This bundled set is a great value, especially compared with the retail cost (and effort) of buying the books separately. The Collection includes much-admired volumes that will become frequently enjoyed additions to your school's science and reading resources.

**For a full list of the books available in each Collection, visit [www.nsta.org/book-series/eureka](http://www.nsta.org/book-series/eureka).**

#### Best Value: Trade book Collection + Eureka, Again! book

#: PAK423X2 Members: **\$419.96** Non-members: **\$524.95**

#### Trade book Collection only

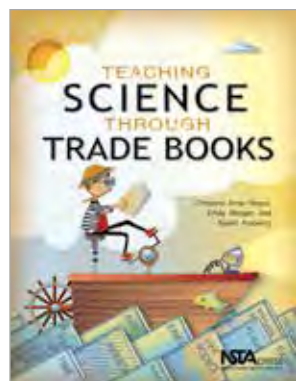
#: OK423X2 Members: **\$383.96** Non-members: **\$479.95**

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### Teaching Science Through Trade Books

Christine Anne Royce, Emily Morgan, and Karen Ansberry

AN NSTA PRESS JOURNALS COLLECTION, GRADES K–6

This collection of popular "Teaching Through Trade Books" columns from NSTA's award-winning journal *Science and Children* will help you engage reluctant scientists (through books) while also enticing struggling readers (through science). Each lesson includes a targeted K–3 activity and a grade 4–6 activity. If you are a fan of *Picture-Perfect Science Lessons* (see pp. 15–20), you'll love the convenience of having these ready-to-teach lessons in one handy volume.

© 2012; ISBN: 978-1-936959-13-6; 326 pages

#: PB315X	Members: <b>\$29.36</b>	Non-members: <b>\$36.70</b>
E-book #: PKEB315X	Members: <b>\$22.02</b>	Non-members: <b>\$27.52</b>
Book/E-book Set #: PKE315X	Members: <b>\$35.23</b>	Non-members: <b>\$44.04</b>

## A Head Start on Science, Second Edition Encouraging a Sense of Wonder

William C. Ritz and William Straits, Editors | NSTA PRESS, GRADES PREK–2

Imagine what fun it could be for 3- to 7-year-olds to engage in a game of Prism Play or Magnetic Scavenger Hunt or Where Did the Shadows Go? Then imagine how convenient it would be for you if such activities came with the connections, standards, and assessments today’s early childhood educators need most. Your dream resource comes to life in this revised and expanded edition of *A Head Start on Science: Encouraging a Sense of Wonder*. It builds on children’s innate curiosity through 89 developmentally appropriate, teacher-tested activities in life, Earth, and physical science.

Like *A Head Start on Life Science* (p. 46), this book emphasizes child-centered development of science practices and skills. Children can explore the natural world as they take advantage of lively opportunities for science learning. But here’s what sets this book apart: It’s an all-in-one resource for caregivers and teachers from preK to grade 2. Each lesson includes a follow-up activity, connections to centers and children’s literature, assessment guides, and **bonus activities written in Spanish and English** that let families continue the fun—and the learning—at home. Each activity also supports both the 2015 Head Start Early Learning Outcomes Framework and the *Next Generation Science Standards*.

Whether your young scientists are building bird nests or making bubbles, *A Head Start on Science, Second Edition* will enrich what the editors call “your noble and indispensable work—providing children with opportunities to follow their own curiosity as they joyfully explore the natural world.”

© 2019; ISBN: 978-1-68140-639-8; 324 pages

#: <b>PB208E2</b>	Members: <b>\$31.88</b>	Non-members: <b>\$39.85</b>
E-book #: <b>PKEB208E2</b>	Members: <b>\$23.91</b>	Non-members: <b>\$29.88</b>
Book/E-book Set #: <b>PKE208E2</b>	Members: <b>\$38.25</b>	Non-members: <b>\$47.82</b>



### SAVE! Buy with *A Head Start on Life Science!*

#: **PKHSOX2** Members: **\$60.56** Non-members: **\$75.72**

## Inquiring Scientists, Inquiring Readers Using Nonfiction to Promote Science Literacy

Jessica Fries-Gaither and Terry Shiverdecker | NSTA PRESS, GRADES 3–8

These resources will help you integrate inquiry-based science with literacy. A learning-cycle framework helps students deepen their understanding with data collection and analysis before reading about a concept. Investigations support standards and encompass life, physical, and Earth and space sciences.

### Inquiring Scientists, Inquiring Readers (Grades 3–5)

Topics include matter, forces and motion, fossils, adaptation, and more!

© 2013; ISBN: 978-1-936959-10-5; 304 pages

#: **PB325X** E-book #: **PKEB325X** Book/E-book Set #: **PKE325X**

### Inquiring Scientists, Inquiring Readers in Middle School (Grades 6–8)

Topics include cells, genetics, thermal energy, chemistry, and more!

● REVERSE AWARD WINNER!

© 2017; ISBN: 978-1-68140-003-7; 384 pages

#: **PB325X2** E-book #: **PKEB325X2** Book/E-book Set #: **PKE325X2**



Book

Members: **\$33.56**  
Non-members: **\$41.95**



E-book

Members: **\$25.17**  
Non-members: **\$31.46**



Book/E-book

Members: **\$40.27**  
Non-members: **50.34**





“Science books are important in my classroom because I use them with authentic inquiry-based activities, and this supports my students’ learning of science, enhances science vocabulary, counteracts scientific misconceptions, and promotes literary skills in explaining, justifying, and summarizing.”

—NSTA Press reader Doreen B.



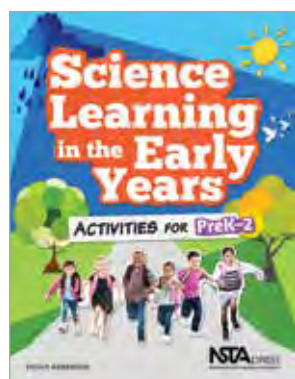
## Creative Writing in Science Activities That Inspire

Katie Coppens | NSTA PRESS, GRADES 3–12

*Creative Writing in Science* offers activities that integrate writing with content in life science, Earth and space science, and engineering and physical science. Each activity comes with strategies for teaching a writing style, whether prose or poetry. Also included are reproducible handouts, graphic organizers, writing models, rubrics, and connections to standards. With this book, you’ll inspire students to be better writers while you enjoy new strategies to assess their scientific understanding.

© 2016; ISBN: 978-1-941316-35-1; 140 pages

#: PB411X	Members: <b>\$20.96</b>	Non-members: <b>\$26.20</b>
E-book #: PKEB411X	Members: <b>\$15.72</b>	Non-members: <b>\$19.65</b>
Book/E-book Set #: PKE411X	Members: <b>\$25.15</b>	Non-members: <b>\$31.44</b>



## Science Learning in the Early Years Activities for PreK–2

Peggy Ashbrook | NSTA PRESS, GRADES PREK–2

*Science Learning in the Early Years* provides you with 40-plus classroom activities and an understanding of how to use them with young students. The book shows you how to go beyond demonstrations to experiences that actually get children engaged. The activities focus on important science concepts, connect to the NGSS, and highlight safety concerns. Author Peggy Ashbrook has been called a mover and shaker in promoting high-quality science content for grades preK–2. ● REVERE AWARD WINNER!

© 2016; ISBN: 978-1-941316-33-7; 376 pages

#: PB407X	Members: <b>\$27.68</b>	Non-members: <b>\$34.60</b>
E-book #: PKEB407X	Members: <b>\$20.76</b>	Non-members: <b>\$25.95</b>
Book/E-book Set #: PKE407X	Members: <b>\$33.21</b>	Non-members: <b>\$41.52</b>



## Predict, Observe, Explain Activities Enhancing Scientific Understanding

John Haysom and Michael Bowen | NSTA PRESS, GRADES 7–12

This research-based book provides more than 100 student activities to learn about scientific concepts through the use of Predict, Observe, Explain sequences. Accompanying the activities are worksheets, scientific explanations, sample student responses obtained during the field tests, a synopsis of the relevant research findings, and a list of required materials.

© 2010; ISBN: 978-1-935155-23-2; 320 pages

#: PB281X	Members: <b>\$29.36</b>	Non-members: <b>\$36.70</b>
E-book #: PKEB281X	Members: <b>\$22.02</b>	Non-members: <b>\$27.52</b>
Book/E-book Set #: PKE281X	Members: <b>\$35.23</b>	Non-members: <b>\$44.04</b>

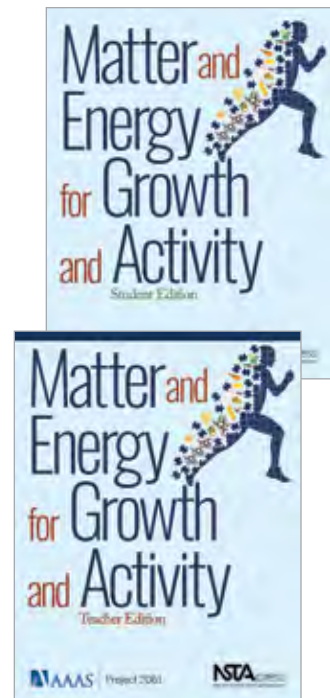


## Matter and Energy for Growth and Activity

AAAS/Project 2061 | NSTA PRESS, GRADES 9–12

How do our bodies get the “stuff” we need to repair a broken leg? Where do we get the energy—even while we sleep—to keep us alive and functioning? *Matter and Energy for Growth and Activity* helps your high school students explore questions like these while learning essential ideas about food, human body systems, matter and energy changes, and chemical reactions. The book provides 14 lessons that were developed by a team of scientists and science educators and then tested in classrooms. Building on the middle school unit *Toward High School Biology* (below), *Matter and Energy for Growth and Activity* helps students deepen their understanding of changes in plants and animals and the role of chemical reactions in the growth, repair, and activity of living organisms.

*Matter and Energy* is teacher-friendly and designed to engage students in a rich variety of phenomena. It integrates all three dimensions of the NGSS. It targets important ideas in both physical and biological systems while prompting students to build their skills in computation and data interpretation. And it comes in a Student Edition as well as a Teacher Edition, which shows sample student answers and explains the design rationale of each activity. The detailed guidance for teachers is complemented by online resources, including interactive media, videos, and handouts.



### Matter and Energy for Growth and Activity, Teacher Edition

© 2019; 978-1-68140-685-5; 420 pages

#: <b>PB448XT</b>	Members: <b>\$37.76</b>	Non-members: <b>\$47.20</b>
E-book #: <b>PKEB448XT</b>	Members: <b>\$28.32</b>	Non-members: <b>\$35.40</b>
Book/E-book Set #: <b>PKE448XT</b>	Members: <b>\$45.31</b>	Non-members: <b>\$56.64</b>

### Matter and Energy for Growth and Activity, Student Edition

© 2019; 978-1-68140-686-2; 200 pages

#: <b>PB448XS</b>	Members: <b>\$16.76</b>	Non-members: <b>\$20.95</b>
E-book #: <b>PKEB448XS</b>	Members: <b>\$12.57</b>	Non-members: <b>\$15.71</b>
Book/E-book Set #: <b>PKE448XS</b>	Members: <b>\$20.11</b>	Non-members: <b>\$25.14</b>

## Toward High School Biology

AAAS/Project 2061 | NSTA PRESS, GRADES 6–8

This 19-lesson unit connects core ideas about chemical reactions to the biological phenomena of growth and repair in plants and animals. Legos, ball-and-stick models, videos, and a variety of print manipulatives help students overcome many common conceptual difficulties and provide the foundation in biochemistry they will need for high school biology and beyond.

### Toward High School Biology, Teacher Edition

© 2017; ISBN: 978-1-68140-560-5; 427 pages

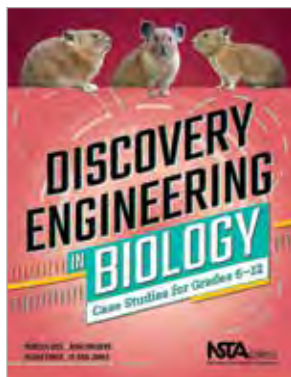
#: <b>PB434XT</b>	Members: <b>\$37.76</b>	Non-members: <b>\$47.20</b>
E-book #: <b>PKEB434XT</b>	Members: <b>\$28.32</b>	Non-members: <b>\$35.40</b>
Book/E-book Set #: <b>PKE434XT</b>	Members: <b>\$45.31</b>	Non-members: <b>\$56.64</b>

### Toward High School Biology, Student Edition

© 2017; ISBN: 978-1-68140-443-1; 182 pages

#: <b>PB434XS</b>	Members: <b>\$16.76</b>	Non-members: <b>\$20.95</b>
E-book #: <b>PKEB434XS</b>	Members: <b>\$12.57</b>	Non-members: <b>\$15.71</b>
Book/E-book Set #: <b>PKE434XS</b>	Members: <b>\$20.11</b>	Non-members: <b>\$25.14</b>





## Discovery Engineering in Biology

### Case Studies for Grades 6–12

Rebecca Hite, Gina Childers, Megan Ennes, and M. Gail Jones | NSTA PRESS, GRADES 6–12

Like the physical science volume (see p. 51), this book features case studies about observations and accidental discoveries that led to the invention of new products and problem-solving applications. After reading a historical account of an actual innovation, students explore related activities that connect to such topics as molecules and organisms, ecosystems, heredity, and biological evolution. The book is a lively way to blend history, real-world perspectives, 21st-century skills, and engineering into your biology or STEM curriculum.

© 2020; ISBN: 978-1-68140-614-5; 350 pages

#: PB444X2	Members: \$33.56	Non-members: \$41.95
E-book #: PKEB444X2	Members: \$25.17	Non-members: \$31.46
Book/E-book Set #: PKE444X2	Members: \$40.27	Non-members: \$50.34



## Engineering in the Life Sciences, 9–12

Rodney L. Custer, Jenny L. Daugherty, Julia M. Ross, Kathryn B. Kennedy, and Cory Culbertson

NSTA PRESS, GRADES 9–12

The six standards-based lessons in this book show how to infuse engineering concepts into your existing courses on structures and processes, ecosystems, heredity, and biological evolution. Inspired by extensive field testing, the authors made the book easy to use in diverse settings by supplementing the lessons with detailed support materials, teaching tips, connections to standards, and case studies about how engineering concepts and science intersect to address human needs.

© 2018; ISBN: 978-1-68140-477-6; 340 pages

#: PB433X	Members: \$33.56	Non-members: \$41.95
E-book #: PKEB433X	Members: \$25.17	Non-members: \$31.46
Book/E-book Set #: PKE433X	Members: \$40.27	Non-members: \$50.34



## Reading Nature

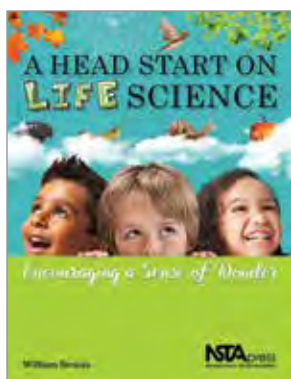
### Engaging Biology Students With Evidence From the Living World

Matthew Kloser and Sophia Grathwol | NSTA PRESS, GRADES 6–12

This unique supplemental resource reflects the true “endeavor of science.” It draws on and adapts peer-reviewed articles from scientific journals that tie into one of five disciplinary core ideas—from molecules to organisms, ecosystems, heredity, biological evolution, and human impacts on Earth systems. With its supplementary teacher questions and prompts, this resource is both practical and flexible.

© 2018; ISBN: 978-1-68140-280-2; 199 pages

#: PB427X	Members: \$20.96	Non-members: \$26.20
E-book #: PKEB427X	Members: \$15.72	Non-members: \$19.65
Book/E-book Set #: PKE427X	Members: \$25.15	Non-members: \$31.44



## A Head Start on Life Science

### Encouraging a Sense of Wonder

William Straits | NSTA PRESS, GRADES PREK–2

The 24 inquiry-based lessons in this lively collection show you how to nurture curiosity in the youngest scientists, with a focus on animals, plants, and nature walks, and include **at-home activities** written in English and Spanish. See page 43 for the *Head Start* volume that includes activities for all science disciplines.

© 2018; ISBN: 978-1-68140-348-9; 209 pages

#: PB428X	Members: \$31.88	Non-members: \$39.85
E-book #: PKEB428X	Members: \$23.91	Non-members: \$29.88
Book/E-book Set #: PKE428X	Members: \$38.25	Non-members: \$47.82



## Adventures With Arthropods

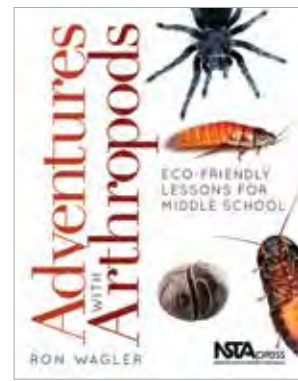
### Eco-Friendly Lessons for Middle School

Ron Wagler | NSTA PRESS, GRADES 6–8

This book will help you and your students get up close and personal with amazing arthropods such as tarantulas, roly polys, and Madagascar hissing cockroaches. It provides 26 middle school lessons that teach students everything from anatomy, growth, and behavior to eating preferences and environmental needs of three arthropod groups. You'll also learn which arthropods are classroom-safe and what's involved in caring for them humanely.

© 2018; ISBN: 978-1-68140-305-2; 110 pages

#: <b>PB435X</b>	Members: <b>\$23.48</b>	Non-members: <b>\$29.35</b>
E-book #: <b>PKEB435X</b>	Members: <b>\$17.61</b>	Non-members: <b>\$22.01</b>
Book/E-book Set #: <b>PKE435X</b>	Members: <b>\$28.17</b>	Non-members: <b>\$35.22</b>



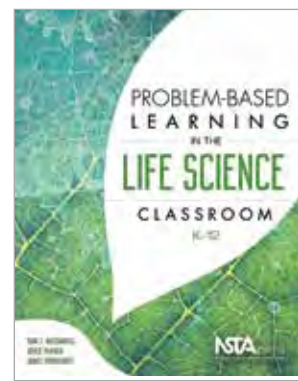
## Problem-Based Learning in the Life Science Classroom, K–12

Tom J. McConnell, Joyce M. Parker, and Janet Eberhardt | NSTA PRESS, GRADES K–12

*Problem-Based Learning in the Life Science Classroom, K–12* will help you prompt learners to immerse themselves in analyzing problems, asking questions, posing hypotheses, finding information, and constructing a proposed solution. The book's 13 lessons cover life cycles, ecology, genetics, and cellular metabolism. See page 24 for an overview of the *Problem-Based Learning* series.

© 2016; ISBN: 978-1-941316-20-7; 245 pages

#: <b>PB408X2</b>	Members: <b>\$29.36</b>	Non-members: <b>\$36.70</b>
E-book #: <b>PKEB408X2</b>	Members: <b>\$22.02</b>	Non-members: <b>\$27.52</b>
Book/E-book Set #: <b>PKE408X2</b>	Members: <b>\$35.23</b>	Non-members: <b>\$44.04</b>



## Scientific Argumentation in Biology

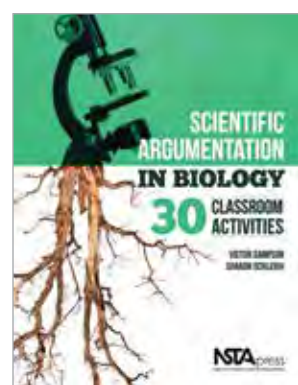
### 30 Classroom Activities

Victor Sampson and Sharon Schleigh | NSTA PRESS, GRADES 6–12

*Scientific Argumentation in Biology* combines theory, practice, and biological content. This book starts by giving you solid background in why students need to be able to go beyond expressing mere opinions when making research-related biology claims. Then, it provides 30 field-tested activities. Detailed teacher notes suggest specific ways to use the activities to enrich and supplement (not replace) what you're doing in class already.

© 2013; ISBN: 978-1-936137-27-5; 382 pages

#: <b>PB304X</b>	Members: <b>\$33.56</b>	Non-members: <b>\$41.95</b>
E-book #: <b>PKEB304X</b>	Members: <b>\$25.17</b>	Non-members: <b>\$31.46</b>
Book/E-book Set #: <b>PKE304X</b>	Members: <b>\$40.27</b>	Non-members: <b>\$50.34</b>



## Once Upon a Life Science Book

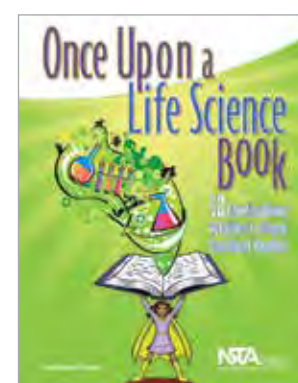
### 12 Interdisciplinary Activities to Create Confident Readers

Jodi Wheeler-Toppen | NSTA PRESS, GRADES 6–8

This book starts with advice on teaching reading-comprehension strategies. Then, the 12 content chapters give you hands-on science activities; readings that cover important science concepts and support the NGSS; writing activities that prompt students to connect what they did with what they read; and assessment exercises to give you feedback on what your students are learning. Topics include cell cycle, food chains, genetics, plant structure and function, and more!

© 2010; 978-1-935155-09-6; 161 pages

#: <b>PB275X</b>	Members: <b>\$19.28</b>	Non-members: <b>\$24.10</b>
E-book #: <b>PKEB275X</b>	Members: <b>\$14.46</b>	Non-members: <b>\$18.07</b>
Book/E-book Set #: <b>PKE275X</b>	Members: <b>\$23.13</b>	Non-members: <b>\$28.92</b>





## Understanding Climate Change, Grades 7–12

Laura Tucker and Lois Sherwood | NSTA PRESS, GRADES 7–12

This practical nine-session module provides both extensive background and step-by-step instructions for using three-dimensional methods to explore climate change. The module includes an in-depth look at sources of carbon dioxide and the greenhouse effect and devotes an entire session to evaluating information. The module is designed with the Learning Cycle and the BSCS 5E Instructional Model in mind as students conduct their own scientific research, discuss ripple effects, and examine solutions. Your students will be ready to use critical thinking skills to draw their own conclusions about what should be done and to come up with ways they can take action to mitigate the effects of climate change.

© 2019; ISBN: 978-1-68140-632-9; 145 pages

#: PB445X	Members: \$26.84	Non-members: \$33.55
E-book #: PKEB445X	Members: \$20.13	Non-members: \$25.16
Book/E-book Set #: PKE445X	Members: \$32.20	Non-members: \$40.26



## Argument-Driven Inquiry in Earth and Space Science Lab Investigations for Grades 6–10

Victor Sampson, Ashley Murphy,  
Kemper Lipscomb, and Todd L. Hutner | NSTA PRESS, GRADES 6–10

This book provides 23 field-tested labs that cover the universe, Earth, and weather. It also helps you make the instructional shift to ADI. The labs cover five disciplinary core ideas in Earth and space science: Earth's place in the universe, the history of Earth, Earth's systems, weather and climate, and Earth and human activity. Your students will explore important content and learn scientific practices. They can investigate everything from how the seasons work to what causes geological formations and even consider where NASA should next send a space probe to look for signs of life. This volume is part of NSTA's teacher-friendly ADI series (pp. 22–23).

© 2018; ISBN: 978-1-68140-373-1; 612 pages

#: PB349X6	Members: \$40.28	Non-members: \$50.35
E-book #: PKEB349X6	Members: \$30.21	Non-members: \$37.76
Book/E-book Set #: PKE349X6	Members: \$48.33	Non-members: \$60.42

## Student Lab Manual for Argument-Driven Inquiry in Earth and Space Science

The manual includes everything students need to complete the investigations.

© 2018; ISBN: 978-1-68140-598-8; 284 pages

#: PB349X6S	Members: \$16.76	Non-members: \$20.95
E-book #: PKEB349X6S	Members: \$12.57	Non-members: \$15.71
Book/E-book Set #: PKE349X6S	Members: \$20.11	Non-members: \$25.14



## Problem-Based Learning in the Earth and Space Science Classroom, K–12

Tom J. McConnell, Joyce Parker, and Janet Eberhardt | NSTA PRESS, GRADES K–12

The scenarios cover Earth's landforms and water, the rock cycle and plate tectonics, weather, and astronomy. They'll prompt students to work collaboratively on analyzing problems, asking questions, posing hypotheses, and constructing solutions. In addition to complete lesson plans that support the NGSS, they offer extensive examples, instructions, and tips. (See more about the series on p. 24.)

© 2017; ISBN: 978-1-941316-19-1; 263 pages

#: PB408X1	Members: \$29.36	Non-members: \$36.70
E-book #: PKEB408X1	Members: \$22.02	Non-members: \$27.52
Book/E-book Set #: PKE408X1	Members: \$35.23	Non-members: \$44.04



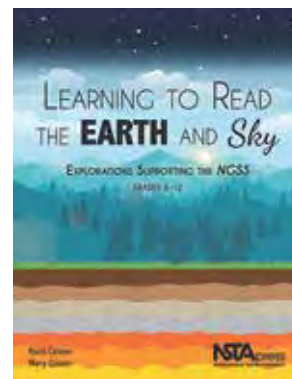
## Learning to Read the Earth and Sky Explorations Supporting the NGSS, Grades 6–12

Russ Colson and Mary Colson | NSTA PRESS, GRADES 6–12

This book offers inspiration for reaching beyond prepared curricula, engaging in discovery along with your students, and using your lessons to support the NGSS. The book provides examples of labs and activities you and your students can do together and guidance on how to translate the core ideas of the NGSS into specific examples.

© 2017; ISBN: 978-1-941316-23-8; 426 pages

#: <b>PB409X</b>	Members: <b>\$37.76</b>	Non-members: <b>\$47.20</b>
E-book #: <b>PKEB409X</b>	Members: <b>\$28.32</b>	Non-members: <b>\$35.40</b>
Book/E-book Set #: <b>PKE409X</b>	Members: <b>\$45.31</b>	Non-members: <b>\$56.64</b>



## Big Data, Small Devices Investigating the Natural World Using Real-Time Data

Donna Governor, Michael Bowen, and Eric Brunzell | NSTA PRESS, GRADES 3–12

This book is designed for Earth and environmental science teachers who want to help students tap into, organize, and deploy large data sets via their devices to investigate the world around them. Using the many available websites and free apps, students can learn to detect patterns among phenomena related to the atmosphere, biosphere, geosphere, hydrosphere, and seasons.

© 2017; ISBN: 978-1-68140-276-5; 262 pages

#: <b>PB421X</b>	Members: <b>\$37.76</b>	Non-members: <b>\$47.20</b>
E-book #: <b>PKEB421X</b>	Members: <b>\$28.32</b>	Non-members: <b>\$35.40</b>
Book/E-book Set #: <b>PKE421X</b>	Members: <b>\$45.31</b>	Non-members: <b>\$56.64</b>



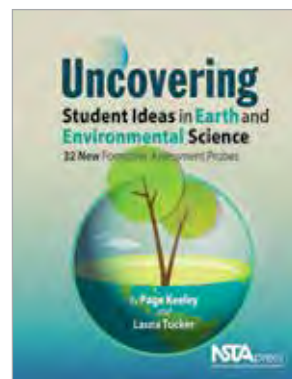
## Uncovering Student Ideas in Earth and Environmental Science 32 New Formative Assessment Probes

Page Keeley and Laura Tucker | NSTA PRESS, GRADES 3–12

Authors Page Keeley and Laura Tucker give you 32 engaging questions, or probes, that can reveal what your students already know—or think they know—about core Earth and environmental science concepts. These probes are organized into four sections: land and water; water cycle, weather, and climate; Earth history, weathering and erosion, and plate tectonics; and natural resources, pollution, and human impact. This 10th installment in the bestselling *Uncovering Student Ideas in Science* series (see pp. 9–11) offers field-tested teacher materials that provide science background and link to national standards.

© 2016; ISBN: 978-1-938946-47-9; 180 pages

#: <b>PB355X</b>	Members: <b>\$31.88</b>	Non-members: <b>\$39.85</b>
E-book #: <b>PKEB355X</b>	Members: <b>\$23.91</b>	Non-members: <b>\$29.88</b>
Book/E-book Set #: <b>PKE355X</b>	Members: <b>\$38.25</b>	Non-members: <b>\$47.82</b>



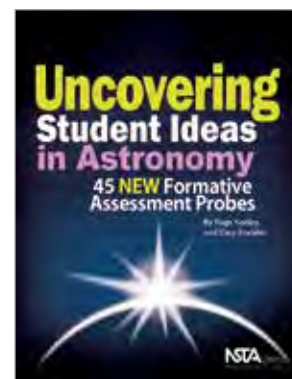
## Uncovering Student Ideas in Astronomy 45 New Formative Assessment Probes

Page Keeley and Cary Snieder | NSTA PRESS, GRADES K–12

The 45 astronomy probes provide situations that will pique your students' interest while helping you understand how your students think about key ideas related to the nature of planet Earth, the Sun-Earth system, the Moon, the solar system, and the universe.

© 2012; ISBN: 978-1-936137-38-1; 255 pages

#: <b>PB307X</b>	Members: <b>\$31.88</b>	Non-members: <b>\$39.85</b>
E-book #: <b>PKEB307X</b>	Members: <b>\$23.91</b>	Non-members: <b>\$29.88</b>
Book/E-book Set #: <b>PKE307X</b>	Members: <b>\$38.25</b>	Non-members: <b>\$47.82</b>







## Solar Science

### Exploring Sunspots, Seasons, Eclipses, and More

Dennis Schatz and Andrew Fraknoi | NSTA PRESS, GRADES 5–8

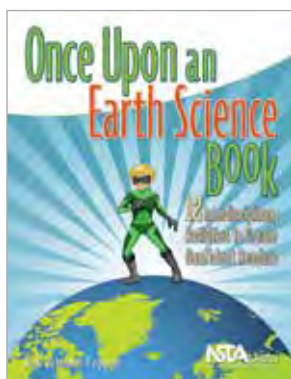
The more than 30 hands-on activities cover the Sun's motions, space weather caused by the Sun, and much more. The book contains ideas for writing projects; grade-appropriate math examples; and connections to music, art, fiction, and history. It also supports the NGSS and connects to the *Common Core State Standards*. ● **AM&P GOLD EXCEL AWARD WINNER!**

© 2016; ISBN: 978-1-941316-07-8; 360 pages

#: <b>PB403X</b>	Members: <b>\$33.56</b>	Non-members: <b>\$41.95</b>
E-book #: <b>PKEB403X</b>	Members: <b>\$25.17</b>	Non-members: <b>\$31.46</b>
Book/E-book Set #: <b>PKE403X</b>	Members: <b>\$40.27</b>	Non-members: <b>\$50.34</b>

*"The book is gloriously illustrated and beautifully produced. The high-quality imagery from NASA completely engages both teacher and student. The activities chosen are the best of the best, coming from years of experience and use. Most are standalone and could be used in informal educational settings. Personally, I have used many of these activities for years, in both my NASA education work and in a 4H Astronomy Project (ages 9–19), with wonderful success."*

—Deborah Scherrer, Stanford Solar Center



## Once Upon an Earth Science Book

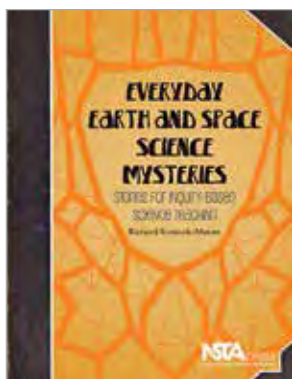
### 12 Interdisciplinary Activities to Create Confident Readers

Jodi Wheeler-Toppen | NSTA PRESS, GRADES 6–8

This book starts with advice on teaching reading comprehension strategies. Then, the 12 content chapters give you hands-on science activities, readings that cover important Earth science concepts and support the NGSS, writing activities, and assessment exercises. (See p. 47 for the life science volume.)

© 2016; ISBN: 978-1-941316-09-2; 185 pages

#: <b>PB275X2</b>	Members: <b>\$21.80</b>	Non-members: <b>\$27.25</b>
E-book #: <b>PKEB275X2</b>	Members: <b>\$16.35</b>	Non-members: <b>\$20.43</b>
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## Everyday Earth and Space Science Mysteries

Richard Konicek-Moran | NSTA Press, Grades K–8

Everybody loves a mystery—and thousands of teachers love how *Everyday Earth and Space Science Mysteries* gets students engaged in real phenomena about science content. It includes activities about astronomy, microclimates, greenhouse gases, decomposition, and more! Author Richard Konicek-Moran uses each mystery to present opportunities for students to ask questions, form hypotheses, test ideas, and come up with explanations. Konicek-Moran engages students by grounding the stories in familiar experiences that provide a foundation for discussion.

© 2013; ISBN: 978-1-936959-28-0; 232 pages

#: <b>PB333X3</b>	Members: <b>\$21.80</b>	Non-members: <b>\$27.25</b>
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## Discovery Engineering in Physical Science

### Case Studies for Grades 6–12

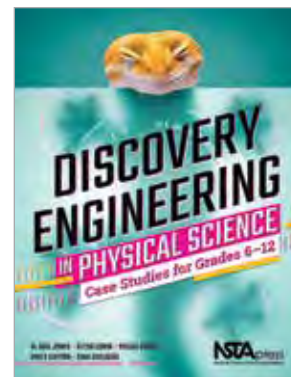
M. Gail Jones, Elysa Corin, Megan Ennes, Emily Cayton, and Gina Childers

NSTA PRESS, GRADES 6–12

Who knew that gecko feet inspired scientists to develop a stickier adhesive or that cockleburrs in dog fur led to the invention of Velcro? This book uses these and other surprising cases of innovations sparked by accidental observations to teach about the amazing role of serendipity in science. Each of the book's 22 investigations starts with a real case of accidental inspiration that students explore through primary documents or historical accounts. Then students do research, examine data and physical materials, and use their own creativity to design new products or problem-solving applications. See the biology volume on page 46!

© 2019; ISBN: 978-1-68140-617-6; 392 pages

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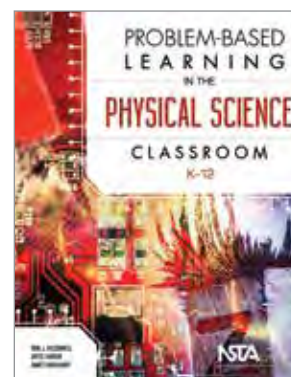
## Problem-Based Learning in the Physical Science Classroom, K–12

Tom J. McConnell, Joyce Parker, and Janet Eberhardt | NSTA PRESS, GRADES K–12

This book will help your students truly understand concepts such as motion, energy, and magnetism in true-to-life contexts. It offers a comprehensive description of why, how, and when to implement problem-based learning (PBL) in your curriculum. Its 14 developmentally appropriate lessons cover forces and motion, energy transformation, and electricity and magnetism. The lessons' inviting titles include "Cartoon Cliff Escape" and "Rube Goldberg Machine." This volume is the third in NSTA's PBL series, which also covers Earth and space science and life science (p. 24). In addition to complete lesson plans that support the *Next Generation Science Standards*, the book offers extensive examples, instructions, and tips for implementing open-ended inquiry. It also provides rich, authentic problems you can use as is or adapt.

© 2018; ISBN: 978-1-941316-21-4; 271 pages

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E-book #: PKEB408X3	Members: <b>\$22.02</b>	Non-members: <b>\$27.52</b>
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## Beyond the Egg Drop

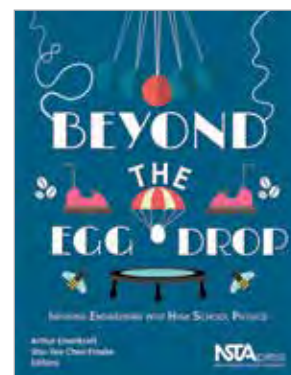
### Infusing Engineering Into High School Physics

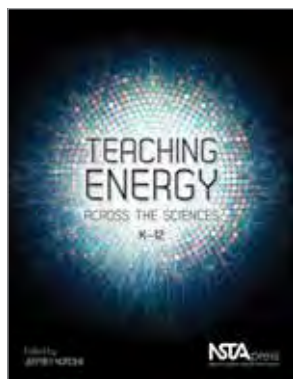
Arthur Eisenkraft and Shu-Yee Chen Freake, Editors | NSTA PRESS, GRADES 9–12

**Problem:** You're eager to expand your physics curriculum and engage your students with engineering content, but you don't know how. **Solution:** Use the approach and lessons in *Beyond the Egg Drop* to infuse engineering into what you're already teaching, without sacrificing time for teaching physics concepts. In addition to a thorough discussion on the rationale, justification, meaning, and implementation of integrating engineering into your science curriculum, this book provides 24 flexible, engineering-infused physics lessons that cover mechanics, optics, electricity, and thermodynamics. Lessons also include examples of student work; incorporate strategies for assessment, teaching, and student learning; and connect to the *Framework* and the *NGSS*. The lessons in *Beyond the Egg Drop* will make it easier to include engineering concepts and skills without having to restructure your existing physics curriculum.

© 2018; ISBN: 978-1-68140-035-8; 473 pages

# PB432X	Members: <b>\$37.76</b>	Non-members: <b>\$47.20</b>
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## Teaching Energy Across the Sciences, K–12

Jeffrey Nordine, Editor | NSTA PRESS, GRADES K–12

This book gives you the strategies and tools you need to help your students understand energy as a concept that cuts across all sciences. The result will be a clear lens for interpreting how energy works in many contexts, both inside and outside the classroom. *Teaching Energy Across the Sciences, K–12* is accessible to teachers with varying science backgrounds.

© 2016; ISBN: 978-1-941316-01-6; 216 pages

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## Using Physical Science Gadgets & Gizmos

Matthew Bobrowsky, Mikko Korhonen, and Jukka Kohtamäki | NSTA PRESS, GRADES 3–12

The *Gadgets & Gizmos* books feature water rockets, Drinking Birds, Dropper Poppers, Boomwhackers, and more. The experiments let students explore phenomena involving pressure and force, thermodynamics, light and color, resonance, buoyancy, and more.

The phenomenon-based learning (PBL) approach is as educational as the demonstrations are attention-grabbing. PBL encourages students to first experience *how* gadgets work and then grow curious enough to find out *why*. The result: Your students learn physics by doing what scientists do. (For information about materials for these books, visit Arbor Scientific at [www.arborsci.com/products/nsta-kit-1](http://www.arborsci.com/products/nsta-kit-1), [www.arborsci.com/products/nsta-kit-2](http://www.arborsci.com/products/nsta-kit-2), [www.arborsci.com/products/nsta-kit-middle-school](http://www.arborsci.com/products/nsta-kit-middle-school), [www.arborsci.com/products/nsta-elementary-school-kit-1](http://www.arborsci.com/products/nsta-elementary-school-kit-1), and [www.arborsci.com/products/nsta-elementary-school-kit-2](http://www.arborsci.com/products/nsta-elementary-school-kit-2).) The volume for grades 3–5 was an **AM&P SILVER EXCEL AWARD WINNER!**

### Using Physical Science Gadgets & Gizmos, Grades 3–5

© 2014; ISBN: 978-1-936959-38-9; 103 pages

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## Argument-Driven Inquiry in Physics, Volume 1

### Mechanics Lab Investigations for Grades 9–12

Victor Sampson, Todd L. Hutner, Daniel FitzPatrick, Adam LaMee, and Jonathon Grooms

NSTA PRESS, GRADES 9–12

Like the NSTA Press bestsellers for high school biology and chemistry (see p. 22), this book helps you build your students' science proficiency. *Argument-Driven Inquiry in Physics, Volume 1* focuses on mechanics and has two parts. The first part describes the ADI instructional model and the components of ADI lab investigations. The second part provides 23 field-tested labs covering a wide variety of topics related to forces and interactions, energy, work, and power. Some investigations are introductory labs that expose students to new content; others are application labs to help students try out a theory, law, or unifying concept. All are easy to use, thanks to teacher notes, student handouts, and checkout questions, and all align with the NGSS and the *Common Core State Standards*.

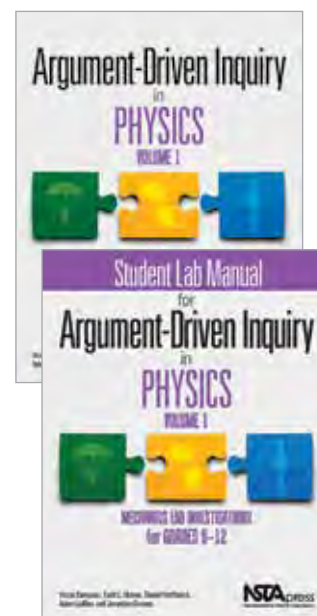
© 2017; ISBN: 978-1-68140-513-1; 564 pages

#: PB349X5V1	Members: \$40.28	Non-members: \$50.35
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### Student Lab Manual for Argument-Driven Inquiry in Physics, Volume 1

© 2017; ISBN: 978-1-68140-579-7; 249 pages

#: PB349X5V1S	Members: \$16.76	Non-members: \$20.95
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## Argument-Driven Inquiry in Physical Science

### Lab Investigations for Grades 6–8

Jonathon Grooms, Patrick J. Enderle, Todd Hutner, Ashley Murphy, and Victor Sampson

NSTA PRESS, GRADES 6–8

*Argument-Driven Inquiry in Physical Science* will make middle school labs much more active and engaging. Its 22 investigations teach students to use argument to construct, support, and evaluate scientific claims. The labs cover four core ideas in physical science: matter, motion and forces, energy, and waves. Students dig into important content and discover scientific practices as they figure out everything from how thermal energy works to what could make an action figure jump higher.

Easy-to-use features include reproducible student pages, teacher notes, checkout questions, and standards-alignment matrices. Its labs are versatile enough to introduce a topic or to act as a unit capstone. No matter how you use these authentic experiences, they'll change the focus of your lab instruction. (See more about the series on pp. 22–23.)

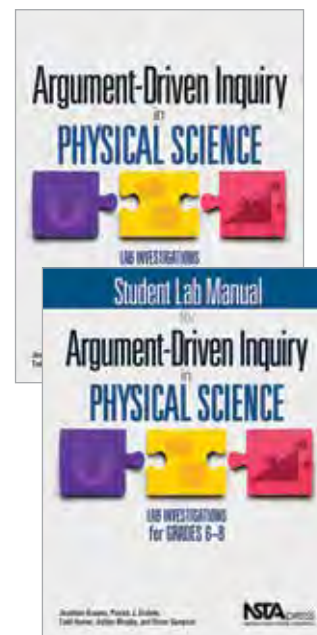
© 2016; ISBN: 978-1-938946-23-3; 464 pages

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### Student Lab Manual for Argument-Driven Inquiry in Physical Science

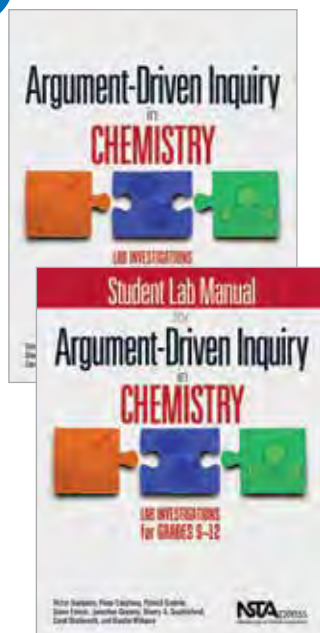
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*"I've used Argument-Driven Inquiry in Chemistry in my class to create three projects that have proven to be top notch! My students enjoyed the project, and most importantly, mastered more of the content than ever before. I've always been amazed at the level of quality of all the NSTA material. I want to get my hands on even more things to increase the learning and engagement in my class."*

—NSTA Press reader Ed G.



## Argument-Driven Inquiry in Chemistry

### Lab Investigations for Grades 9–12

Victor Sampson, Peter Carafano, Patrick Enderle, Steve Fannin, Jonathon Grooms,  
Sherry A. Southerland, Carol Stallworth, and Kiesha Williams | NSTA PRESS, GRADES 9–12

Transform your chemistry labs with this guide to argument-driven inquiry. Students will learn to identify questions, develop models, collect and analyze data, generate arguments, and critique and revise reports. The 30 field-tested labs cover a broad range of topics related to chemical reactions and matter's structure and properties. The book contains introduction labs to acquaint students with new content and application labs to try out a theory, law, or unifying concept. All labs include reproducible student pages, teacher notes, and checkout questions.

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### Student Lab Manual for Argument-Driven Inquiry in Chemistry

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## Uncovering Student Ideas in Physical Science, Volumes 1, 2, and 3

Page Keeley | NSTA PRESS, GRADES K–12

Volume 1 provides 45 formative assessment probes on topics related to force and motion. Volume 2 offers 39 additional probes covering electricity and magnetism. The 32 new probes in volume 3 cover matter and energy. By helping you detect students' misconceptions and then make sound instructional decisions to address them, these books have the potential to transform your teaching. Volumes 1 and 2 are coauthored by Rand Harrington. Volume 3 is coauthored by Susan Cooper. Volume 1 was a **REVERSE AWARD WINNER!**

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### Volume 3, 32 New Matter and Energy Formative Assessment Probes

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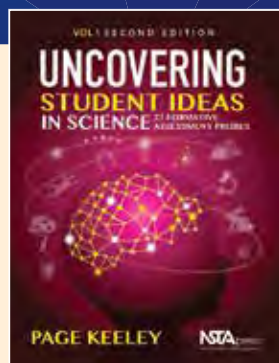
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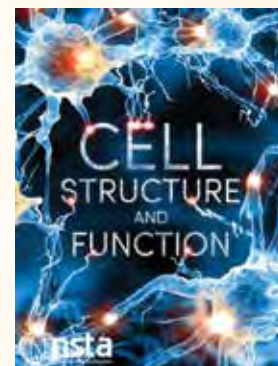
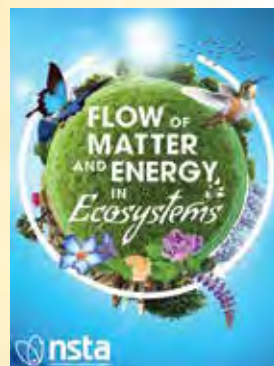


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- Rocks
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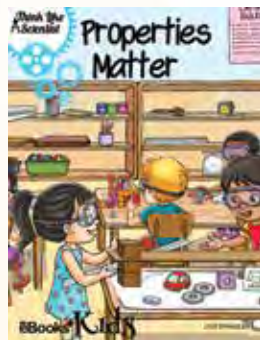




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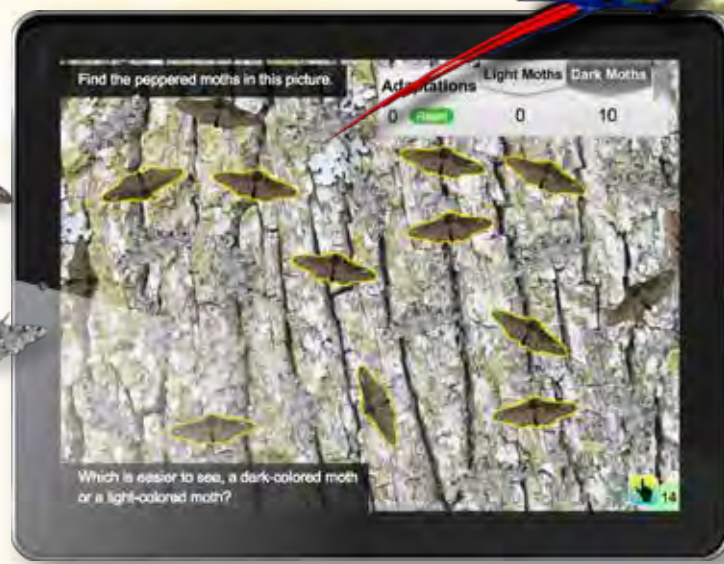
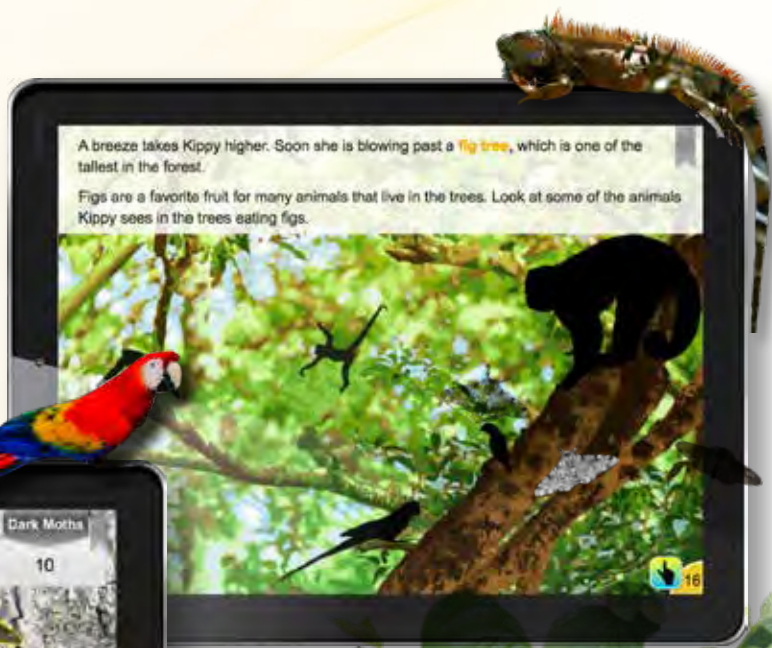
STEM for kids! Phenomenon-based, three-dimensional learning content that's designed using the 5E model and incorporates the science and engineering practices (SEPs), crosscutting concepts (CCCs), and disciplinary core ideas (DCIs) of three-dimensional learning.

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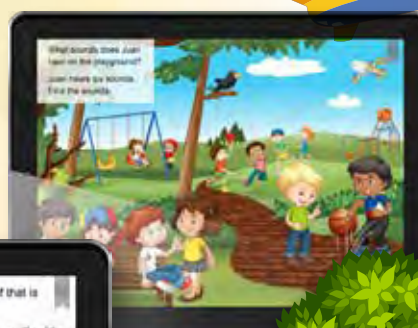
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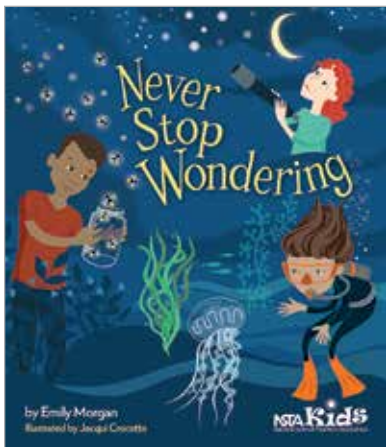
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## Never Stop Wondering

Emily Morgan | NSTA KIDS, GRADES K-4

Keep curiosity alive! That's the message of *Never Stop Wondering*, which inspires children to develop an enduring interest in the mysteries of the universe. Illustrated with whimsical drawings and written in lively verse by Emily Morgan (author of the *Next Time You See* series, pp. 62–63), the book is a vibrant ode to the power of asking questions and the endeavor of science. It prompts kids to be inquisitive and persistent like the great scientists of history and provides activities to get their questions flowing; it motivates them to appreciate scientific inquiry; and most important, it encourages them to never stop in their quest to explore the “whys” of the world.

*Never stop wondering, never stop questioning.  
Never stop trying to figure things out.*

*Always keep searching, always keep asking.  
That's what science is all about.*

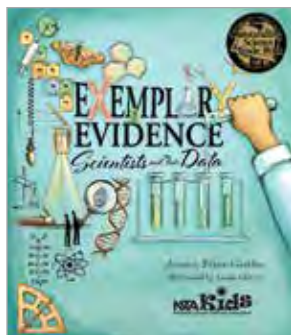
© 2019; ISBN: 978-1-68140-008-2; 32 pages; Lexile: 790L

#: PB440X	Members: \$10.36	Non-members: \$12.95
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### Library Edition

© 2019; ISBN: 978-1-68140-650-3; 32 pages; Lexile: 790L

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## Exemplary Evidence Scientists and Their Data

Jessica Fries-Gaither | NSTA KIDS, GRADES 3–5

With this follow-up to the award-winning *Notable Notebooks* (see below), you can help kids discover what data—and scientists—can do! *Exemplary Evidence* highlights how a diverse range of scientists, including Marie Tharp and Russell Stands-Over-Bull, have used measurements, mapping, and even sketches to make all kinds of breakthroughs. ● **OUTSTANDING SCIENCE TRADE BOOK FOR STUDENTS K–12!**

© 2019; ISBN: 978-1-68140-361-8; 32 pages; Lexile: 990L

#: PB441X	Members: \$11.96	Non-members: \$14.95
E-book #: PKEB441X	Members: \$9.42	Non-members: \$11.77
Book/E-book Set #: PKE441X	Members: \$15.07	Non-members: \$18.84

### Library Edition

© 2019; ISBN: 978-1-68140-655-8; 32 pages; Lexile: 990L

#: PB441XL	Members: \$15.16	Non-members: \$18.95
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## Notable Notebooks Scientists and Their Writings

Jessica Fries-Gaither | NSTA KIDS, GRADES 3–5

This book brings to life the many ways in which trailblazers from Galileo to Jane Goodall have used a science notebook. You will also get four steps to starting your own notebook, plus mini-biographies of the diverse featured scientists. Written in captivating rhyme, the text is sprinkled with lively illustrations. ● **OUTSTANDING SCIENCE TRADE BOOK FOR STUDENTS K–12!**

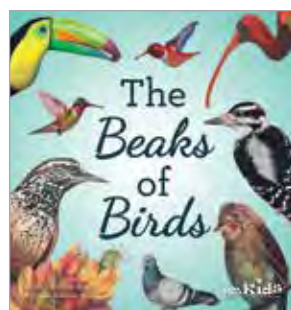
© 2016; ISBN: 978-1-68140-307-6; 32 pages; Lexile: 670L

#: PB415X	Members: \$11.96	Non-members: \$14.95
E-book #: PKEB415X	Members: \$9.42	Non-members: \$11.77
Book/E-book Set #: PKE415X	Members: \$15.07	Non-members: \$18.84

### Library Edition

© 2016; ISBN: 978-1-68140-379-3; 32 pages; Lexile: 670L

#: PB415XL	Members: \$15.16	Non-members: \$18.95
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## The Beaks of Birds

Richard Konicek-Moran and Kathleen Konicek-Moran | NSTA KIDS, GRADES 3–5

Why do some birds have beaks like straws, or pouches, or even daggers? Invite students to find out by reading this story of a child and two grown-up friends on a jaunt that sparks all kinds of questions. In addition to kindling kids' curiosity, the colorful book shows how the structure of birds' beaks plays a significant role in how birds function to find and capture their food. Bonus background material and eight age-appropriate activities round out the contents. The authors are husband-and-wife naturalists who also wrote and illustrated *From Flower to Fruit* (see below).

© 2019; ISBN: 978-1-68140-352-6; 36 pages; Lexile: 670L

#: PB442X	Members: \$10.36	Non-members: \$12.95
E-book #: PKEB442X	Members: \$8.84	Non-members: \$10.20
Book/E-book Set #: PKE442X	Members: \$14.14	Non-members: \$17.68

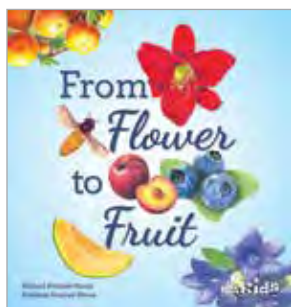
## From Flower to Fruit

Richard Konicek-Moran and Kathleen Konicek-Moran | NSTA KIDS, GRADES K–4

Spark curiosity about the parts of a flower and the vital roles of bees and seeds in plant reproduction as you explore several mysteries: How does a seed change as it sprouts into a plant? Why do scientists call a tomato a fruit? Can some fruits really fly, float, and stick to your socks? This book will transform curious readers—children and adults—into budding botanists.

© 2016; ISBN: 978-1-941316-34-4; 36 pages; Lexile: 720L

#: PB416X	Members: \$10.36	Non-members: \$12.95
E-book #: PKEB416X	Members: \$8.84	Non-members: \$10.20
Book/E-book Set #: PKE416X	Members: \$14.14	Non-members: \$17.68



## When the Sun Goes Dark

Andrew Fraknoi and Dennis Schatz | NSTA KIDS, GRADES 5–8

Two curious children and their grandparents re-create eclipses in their living room using a lamp, a tennis ball, two Hula Hoops, and Ping-Pong balls. Later, the family explores safe ways to view a solar eclipse and ponders phenomena from sunspots to phases of the Moon. This book gives children and adults hands-on techniques for learning the science behind eclipses of the Sun and Moon.

● **OUTSTANDING SCIENCE TRADE BOOK FOR STUDENTS K–12!**

© 2017; ISBN: 978-1-68140-011-2; 36 pages; Lexile: 890L

#: PB417X	Members: \$11.96	Non-members: \$14.95
E-book #: PKEB417X	Members: \$9.42	Non-members: \$11.77
Book/E-book Set #: PKE417X	Members: \$15.07	Non-members: \$18.84



“[When the Sun Goes Dark] models children asking questions and figuring out the answers, which is a wonderful way to learn something new. Again, Andy Fraknoi and Dennis Schatz have shown that curiosity about the natural world is fun and leads to an appreciation of our home here on planet Earth.”



—NSTA Press reader Edna D.

## Mrs. Carter’s Butterfly Garden

Steve Rich | NSTA KIDS, GRADES K–3

Inform and inspire young naturalists with this book about a very special butterfly garden. *Mrs. Carter’s Butterfly Garden* is the story of how former First Lady Rosalynn Carter started a front yard project that grew into a butterfly-friendly trail through her hometown of Plains, Georgia. Learn from Mrs. Carter’s example why it’s good for people when butterflies have welcoming spaces and how kids can create their own butterfly gardens at home or school. ● **OUTSTANDING SCIENCE TRADE BOOK FOR STUDENTS K–12!**

© 2015; ISBN: 978-1-941316-08-5; 32 pages; Lexile: 1120L

#: PB352X1    E-book #: PKEB352X1    Book/E-book Set #: PKE352X1



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E-book  
Members: \$8.84  
Non-members: \$10.20



Book/E-book  
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Non-members: \$17.68

## My School Yard Garden

Steve Rich | NSTA KIDS, GRADES K–3

This colorful book takes students on a ramble through a school yard garden—past the seeding beds, along the compost bin, and over to the birdhouse and birdbath. Along the way, children learn what insects, animals, and plants need to thrive and discover the fun of observing and recording it all. *My School Yard Garden* proves you can learn a lot from a garden, no matter where it grows.

© 2015; ISBN: 978-1-938946-21-9; 32 pages; Lexile: 1110L

#: PB352X2    E-book #: PKEB352X2    Book/E-book Set #: PKE352X2





# Next Time

Emily Morgan | NSTA KIDS, GRADES K-5

**A**waken a sense of wonder in a child with the *Next Time You See* series. Rather than providing facts to memorize, the books' engaging text and eye-catching photography inspire children to experience the enchantment of everyday phenomena in the natural world. Free supplementary activities are available on NSTA's website for teachers who want to go one step further. Specially designed to be experienced with an adult—whether a parent, teacher, or friend—*Next Time You See* books serve as a reminder that you don't have to look far to find something remarkable in nature. (*Next Time You See* books in Spanish are translated by Alicia B. Fuentes.)



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Members: **\$10.36**  
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Members: **\$8.84**  
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ISBN: 978-1-941316-32-0; #: PB329X8L

### Next Time You See a Firefly

ISBN: 978-1-938946-16-5; #: PB329X3L

### Next Time You See a Maple Seed

ISBN: 978-1-941316-15-3; #: PB329X6L

### Next Time You See the Moon

ISBN: 978-1-938946-49-3; #: PB329X5L

### Next Time You See a Pill Bug

ISBN: 978-1-938946-17-2; #: PB329X4L

### Next Time You See a Seashell

ISBN: 978-1-938946-27-1; #: PB329X1L

### Next Time You See a Spiderweb

ISBN: 978-1-941316-31-3; #: PB329X7L

### Next Time You See a Sunset

ISBN: 978-1-938946-26-4; #: PB329X2L



## Next Time You See a Bee

This book will get young readers buzzing about bees! *Next Time You See a Bee* reveals the big impact these little insects have on the world. It shows how the physical features of bees make them pros at collecting and spreading pollen. It explains how bees pollinate flowers, allowing the plants to produce delicious foods such as apples, almonds, and peaches. It also introduces readers to the wide variety of North America's native bee species, discusses why bees are threatened, and shares what readers can do to help. After reading *Next Time You See a Bee*, curious kids can partner with adults to observe these remarkable creatures without fear—and take bee-friendly measures to protect the insects for the benefit of us all.

© 2019; ISBN: 978-1-68140-651-0; 32 pages; Lexile: 940L  
#: PB329X9    E-book #: PKEB329X9    Book/E-book Set #: PKE329X9

## Next Time You See a Cloud

● OUTSTANDING SCIENCE TRADE BOOK FOR STUDENTS K-12!

© 2016; ISBN: 978-1-938946-36-3; 32 pages; Lexile: 980L  
#: PB329X8    E-book #: PKEB329X8    Book/E-book Set #: PKE329X8



# You See



## Next Time You See a Firefly

● OUTSTANDING SCIENCE TRADE BOOK FOR STUDENTS K-12!

© 2013; ISBN: 978-1-936959-18-1; 32 pages; Lexile: 890L

#: PB329X3 E-book #: PKEB329X3 Book/E-book Set #: PKE329X3

## Next Time You See a Maple Seed

● OUTSTANDING SCIENCE TRADE BOOK FOR STUDENTS K-12!

© 2014; ISBN: 978-1-938946-35-6; 32 pages; Lexile: 1040L

#: PB329X6 E-book #: PKEB329X6 Book/E-book Set #: PKE329X6

## Next Time You See the Moon

● ILA/CBC CHILDREN'S CHOICES WINNER!

© 2014; ISBN: 978-1-938946-33-2; 32 pages; Lexile: 940L

#: PB329X5 E-book #: PKEB329X5 Book/E-book Set #: PKE329X5

Spanish edition available

## La próxima vez que veas la luna

© 2016; ISBN: 978-1-68140-286-4; 32 pages; e-ISBN: 978-1-68140-287-1

#: PB329X5SP E-book #: PKEB329X5SP Book/E-book Set #: PKE329X5SP

## Next Time You See a Pill Bug

● OUTSTANDING SCIENCE TRADE BOOK FOR STUDENTS K-12!

● REVERSE AWARD WINNER!

© 2013; ISBN: 978-1-936959-17-4; 32 pages; Lexile: 640L

#: PB329X4 E-book #: PKEB329X4 Book/E-book Set #: PKE329X4

Spanish edition available

## La próxima vez que veas una cochinilla

© 2016; ISBN: 978-1-68140-289-5; 32 pages; e-ISBN: 978-1-68140-290-1

#: PB329X4SP E-book #: PKEB329X4SP Book/E-book Set #: PKE329X4SP

## Next Time You See a Seashell

● REVERSE AWARD WINNER!

© 2013; ISBN: 978-1-936959-15-0; 32 pages; Lexile: 810L

#: PB329X1 E-book #: PKEB329X1 Book/E-book Set #: PKE329X1

## Next Time You See a Spiderweb

● OUTSTANDING SCIENCE TRADE BOOK FOR STUDENTS K-12!

© 2015; ISBN: 978-1-938946-34-9; 32 pages; Lexile: 1080L

#: PB329X7 E-book #: PKEB329X7 Book/E-book Set #: PKE329X7

## Next Time You See a Sunset

● OUTSTANDING SCIENCE TRADE BOOK FOR STUDENTS K-12!

© 2013; ISBN: 978-1-936959-16-7; 32 pages; Lexile: 630L

#: PB329X2 E-book #: PKEB329X2 Book/E-book Set #: PKE329X2

Spanish edition available

## La próxima vez que veas una puesta del sol

© 2016; ISBN: 978-1-68140-282-6; 32 pages; e-ISBN: 978-1-68140-284-0

#: PB329X2SP E-book #: PKEB329X2SP Book/E-book Set #: PKE329X2SP





# I Wonder Why

Lawrence F. Lowery

The *I Wonder Why* series was written to ignite the curiosity of young children while encouraging them to become avid readers. Included in each volume is a Parent/Teacher Handbook with coordinating activities. The *I Wonder Why* series was written by award-winning science educator Lawrence Lowery.



Book  
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## Animals Two by Two

NSTA KIDS, GRADES K-3

Reading this book is like taking a walk through the zoo with an eagle-eyed friend testing you about the differences between a frog and a toad or a mole and a vole!

© 2015; ISBN: 978-1-941316-28-3; 36 pages; Lexile: 570L  
#: PB330X20 E-book #: PKEB330X20 Book/E-book Set #: PKE330X20

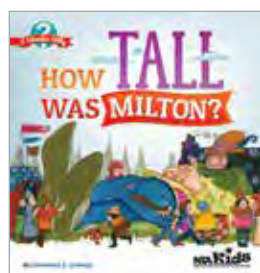


## Fragrant as a Flower

NSTA KIDS, GRADES K-3

This book invites kids to discover what their sense of smell can teach them about the world around them.

© 2016; ISBN: 978-1-68140-353-3; 36 pages; Lexile: 610L  
#: PB330X23 E-book #: PKEB330X23 Book/E-book Set #: PKE330X23



## How Tall Was Milton?

NSTA KIDS, GRADES K-6

In this book, the townspeople's earnest yet humorous attempts to gauge just how big Milton is convey the importance of having standard units of measurement.

© 2013; ISBN: 978-1-936959-43-3; 36 pages; Lexile: 550L  
#: PB330X2 E-book #: PKEB330X2 Book/E-book Set #: PKE330X2



## Look and See

NSTA KIDS, GRADES K-3

Charming text and bright pictures help children learn about the richness of sight and start making comparisons and identifying patterns in what they see.

© 2016; ISBN: 978-1-68140-355-7; 36 pages; Lexile: 300L  
#: PB330X22 E-book #: PKEB330X22 Book/E-book Set #: PKE330X22



## Quiet as a Butterfly

NSTA KIDS, GRADES K-3

The book not only explains how hearing works but also aims to sharpen young readers' awareness of all they can listen to and all they can learn as they do.

© 2016; ISBN: 978-1-68140-354-0; 36 pages; Lexile: 780L  
 #: PB330X24 E-book #: PKEB330X24 Book/E-book Set #: PKE330X24



## Sounds Are High, Sounds Are Low

NSTA KIDS, GRADES K-6

A whimsical introduction to pitch and volume, this book practically begs young scientists to read it aloud.

© 2014; ISBN: 978-1-941316-04-7; 36 pages; Lexile: 420L  
 #: PB330X13 E-book #: PKEB330X13 Book/E-book Set #: PKE330X13

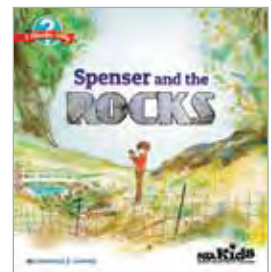


## Spenser and the Rocks

NSTA KIDS, GRADES K-6

This book is an engaging introduction to such scientific procedures as classification and research.

© 2013; ISBN: 978-1-938946-11-0; 36 pages; Lexile: 550L  
 #: PB330X6 E-book #: PKEB330X6 Book/E-book Set #: PKE330X6



## The Tree by Diane's House

NSTA KIDS, GRADES K-3

The book explores life cycles and the food chain as it shows young readers how an end can also be a new beginning in the natural world.

© 2015; ISBN: 978-1-941316-25-2; 36 pages; Lexile: 420L  
 #: PB330X17 E-book #: PKEB330X17 Book/E-book Set #: PKE330X17

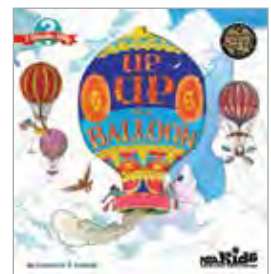


## Up, Up in a Balloon

NSTA KIDS, GRADES K-6

In addition to introducing scientific processes and principles of flight, this book may prompt budding inventors to try, try again.

● **OUTSTANDING SCIENCE TRADE BOOK FOR STUDENTS K-12!**  
 © 2013; ISBN: 978-1-938946-14-1; 36 pages; Lexile: 620L  
 #: PB330X9 E-book #: PKEB330X9 Book/E-book Set #: PKE330X9



Check out all the great books in the *I Wonder Why* series!



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Explore using distance-learning strategies to give students experience with relevant phenomena in order to create the need to engage in science learning to explain what they've observed.

## Three-Dimensional Teaching and Learning Powered by STEM

Empower educators to better integrate STEM and three-dimensional (3-D) standards for teaching and learning, and learn how STEM initiatives and 3-D instruction support each other. Participants explore the vision of a scientifically literate society described in *A Framework for K–12 Science Education*. They examine how this vision supports and is supported by STEM education, focusing on aspects of the designed world through the application of science and engineering practices.

## Achieving Equity With Three-Dimensional Teaching and Learning

Explore how 3-D science instruction, driven by phenomena and problem solving, can create opportunities for ALL students to develop scientific literacy. Participants develop an understanding of 3-D teaching and learning and gain a powerful toolkit to support learning for all students in the classroom.

## Assessing Three-Dimensional Learning

3-D teaching and learning poses new challenges—and new opportunities—in assessment. Participants learn how to examine student models for evidence of 3-D learning. They also learn criteria for evaluating the quality of assessment tasks.

## Using Student-Work Protocols to Evaluate 3-D Learning

Participants learn a protocol to examine student work for evidence of 3-D learning, provide feedback, and inform next steps of instruction. The protocol can be used by individual teachers or within professional learning communities.

Formats include individual or series of web seminars, as well as virtual workshops, using both synchronous and asynchronous strategies.



Learn about more professional learning opportunities at [www.nsta.org/district](http://www.nsta.org/district)



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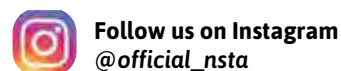
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