

# Hawker Brownlow Education

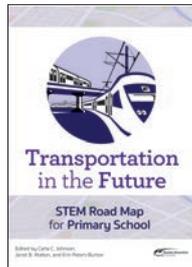
## R E S O U R C E S



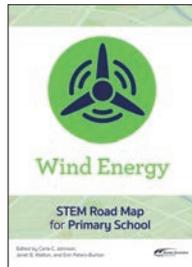
### STEM ROAD MAP SERIES

Carla C. Johnson, Janet B. Walton, and Erin Peters-Burton

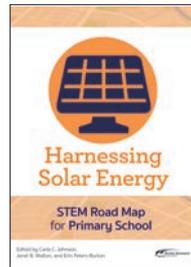
Steering your students towards authentic problem solving while grounding them in integrated STEM disciplines. These books are designed to meet the growing need to infuse real-world learning into the Primary, Middle Years and High school classroom. Each book is an interdisciplinary module using project- and problem-based learning. These books 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.



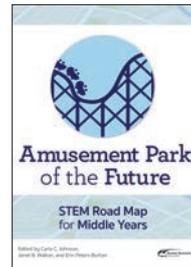
**NST5961**



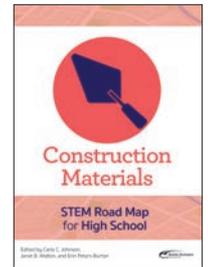
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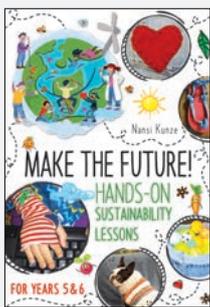


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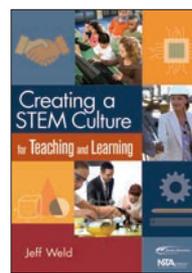
**\$35.95 Each**



### MAKE THE FUTURE! HANDS-ON SUSTAINABILITY LESSONS FOR YEARS 5 & 6

Nansi Kunze • 9781760562175  
Can primary students really change the world? Yes, they can – and this book shows them how! Make the Future! Hands-On Sustainability Lessons for Years 5 & 6 is a cross-curriculum STEM resource that gives real meaning to the idea of sustainability. It contains ten different activities for each year level, designed to supplement Australian Curriculum instruction by addressing the Sustainability cross-curriculum priority, as well as reproducible worksheets and teachers' notes.

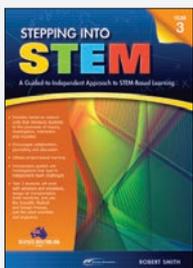
**HB2175 • \$32.95**



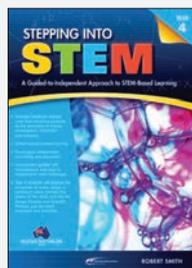
### CREATING A STEM CULTURE

Jeff Wald • 9781760565947  
Topics in this book include why STEM matters; what STEM networks do; how to build community buy-in for STEM; what makes school-business STEM partnerships work; and what STEM means for teachers, learning, and assessment. Each chapter is sprinkled with lighthearted case studies that complement the topic at hand. From start to finish, writes Wald, the story of STEM unfolds "as a how-to, can-do, who's-who, you-too manual and memoir based on the experiences of leaders who walk the talk."

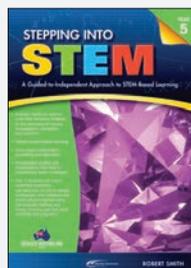
**NST5946 • \$49.95**



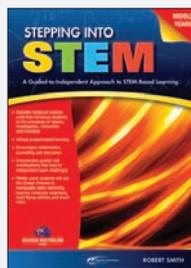
**TCR4957**



**TCR4964**



**TCR4971**



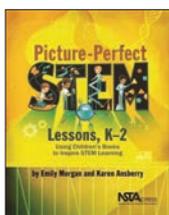
**TCR4988**

### STEPPING INTO STEM SERIES

Robert Smith

Work with students to design megaphones and guitars; build model roller-coasters, flying vehicles and motorised machines; manipulate static electricity; and much more! This series is packed with STEM activities for a range of year levels, from Year 3 to the middle years. Teachers will find plenty of helpful background information and guidance on STEM connections, as well as many ways to extend their students' STEM learning in a practical classroom setting.

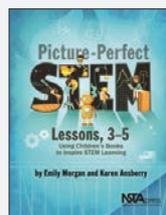
**\$49.95 Each**



### PICTURE-PERFECT STEM LESSONS, F-2

Emily Morgan, Karen Ansberry • 9781760563646  
Drawing on diverse and attention-grabbing books such as *The Handiest Things in the World*, *The Day the Crayons Came Home*, and *I Wanna Iguana*. The lessons will lead your students to ask questions and define problems; obtain, evaluate and communicate information; and engage in argument from evidence. Along the way, students invent a handy backpack, design their own process for recycling crayons, and build a model habitat for an imaginary pet. Through these lessons and activities, all young students, including reluctant scientists and struggling readers, will quickly find themselves absorbed in STEM-related discovery.

**NST3646 • \$55.00**



### PICTURE-PERFECT STEM LESSONS, 3-5

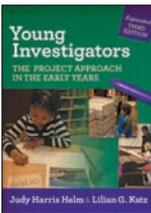
Emily Morgan, Karen Ansberry • 9781760563639  
This volume of Picture-Perfect STEM Lessons for the upper-primary years uses a remarkable variety of books to teach STEM concepts and reading comprehension strategies. Through the accompanying lessons, you can teach ways to plan and carry out investigations; analyse and interpret data; and construct explanations and design solutions. Along the way, your students will invent toy cars, learn how scientists use technology to track individual animals within larger groups, figure out how to reduce plastic pollution, and tackle other real-world projects.

**NST3639 • \$55.00**



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### YOUNG INVESTIGATORS: Expanded Third Ed

Judy Harris Helm, Lilian Katz • 9781760560034

Now in its third edition, *Young Investigators* provides an introduction to the project approach with step-by-step guidance for conducting meaningful investigations with young children. The authors have expanded the book to include two new chapters - *How Projects Can Connect Children with Nature* and *Project Investigations as STEM Experiences* - and to provide more help to teachers of the youngest children (toddlers) and older children (Year 2). The new edition also

shows teachers how to use standards in the topic selection process and identifies activities and experiences that will help children grasp key concepts and skills.

**TCPO034 • \$39.95**

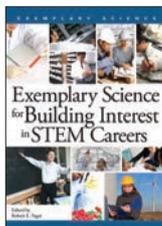


### MODELS AND APPROACHES TO STEM PROFESSIONAL DEVELOPMENT

Brenda Wojnowski, Celestine Pea • 9781760010584

The book's emphasis is on developing highly effective teachers who are expected to improve student achievement in STEM education; its focus is on research-based models underlying systemic reform efforts across the nation. The book opens with expert views on the history of professional development in science education, the challenges of the new standards, and related research on learning.

**NST0584 • \$55.95**

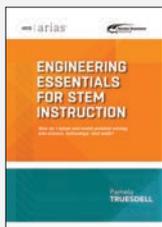


### EXEMPLARY SCIENCE FOR BUILDING INTEREST IN STEM CAREERS

Robert Yager • 9781760010591

*Exemplary Science for Building Interest in STEM Careers* provides the examples and inspiration to accelerate the trend toward steering students to the fields of science, technology, engineering and maths. This book explores 16 examples of ideas and experiences representing a large number of career areas; including scientists, engineers, inventors and education reformers. When teachers change their teaching, student interest increases.

**NST0591 • \$45.95**



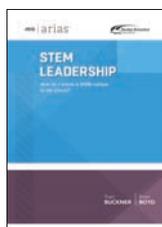
### ENGINEERING ESSENTIALS FOR STEM INSTRUCTION: ASCD Arias Publication

Pamela Truesdell • 9781760015718

In this practical introduction to engineering for primary to secondary school teacher, you'll learn how to create effective engineering-infused lessons that break down the barriers between science, maths and technology instruction. Veteran teacher Pamela Truesdell highlights engineering's connection to 21st century skills and university and career readiness, addresses the Next Generation Science Standards, and walks you through

each step of the simple but powerful engineering design process. It's a crucial tool for professional engineers and the key to engaging students in hands-on, collaborative projects that ask them to apply content-area knowledge to find solutions for real-world problems.

**SF114048 • \$15.00**

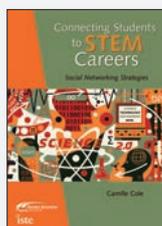


### STEM LEADERSHIP: ASCD Arias Publication

Traci Buckner, Brian Boyd • 9781760015060

This practical, hands-on guide shows F-12 school leaders how to support STEM programs that excite students and teachers - even if the leader is not an expert in science, technology, engineering or maths. Buckner and Boyd explore ideas for fostering equitable access to rich and rigorous learning experiences, acting as instructional leaders and building community engagement and partnerships.

**SF114081 • \$15.00**



### CONNECTING STUDENTS STEM CAREERS TO SOCIAL NETWORKING STRATEGIES

Camille Cole • 9781743300688

This book shows you ways to find STEM professionals around the world who are willing to interact with your students. She explains how to set up programs that give students the opportunity to engage in real-world learning experiences and how to tap into current programs. Through this authentic engagement your students will find their STEM education to be more rewarding and relevant

to their lives, leading many to develop an interest in STEM careers.

**IST0688 • \$36.95**



### INTEGRATING ENGINEERING AND SCIENCE IN YOUR CLASSROOM

Eric Brunzell • 9781760010904

The design challenges in this compendium will spur your students to jump right in and engage through the entire class. Activities reinforce important science content while illustrating a range of STEM skills. This book will excite students of all ages with activities involving everything from light sabers and egg racers to prosthetic arms and potatoes; apply to lessons in life and environmental science,

Earth science and physical science; and work well in traditional classrooms as well as after-school programs.

**NST0904 • \$32.95**



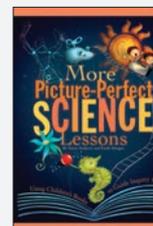
### STEM STUDENT RESEARCH HANDBOOK

Darci Harland • 9781760019334

This volume provides enough detail to embolden all teachers to support science, technology, engineering and mathematics student-researchers through the experimental process. Early chapters help students conceive and implement their projects, while later chapters on descriptive and inferential statistics, as well as graphical representations, help them correctly interpret their data. Final chapters enable students to effectively communicate their results by writing and documenting a

STEM research essay, as well as by preparing for oral and poster presentations.

**NST9334 • \$45.95**

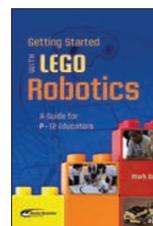


### MORE PICTURE-PERFECT SCIENCE LESSONS, F-4

Karen Ansberry, Emily Morgan • 9781760014643

Teachers raved when *Picture-Perfect Science Lessons* was first published. They loved its lively mix of kid-magnet books, curriculum-based science content and ready-to-teach lessons. So what could be more perfect? *More Picture-Perfect Science Lessons!* This volume offers 14 new lessons that combine picture books and inquiry to develop students' interest in science and reading.

**NST4643 • \$65.95**



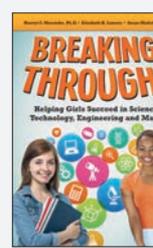
### GETTING STARTED WITH LEGO ROBOTICS

Mark Gura • 9781741707779

What if it could be applied as part of a lesson, as a class on its own or as an after-school club? Sound too good to be true? It's not. The golden ticket is robotics. It's hard to find a better way to teach STEM education. And the best part is it's hands on, multidisciplinary, collaborative, an authentic learning experience and engaging! Gura brings together the information you need and presents it in a manageable, organised way so that you learn what LEGO Robotics is, what

student activities look like, how to begin, how to manage a class and much more.

**IST7779 • \$42.95**

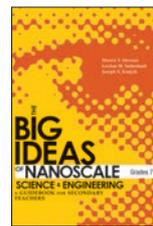


### BREAKING THROUGH! HELPING GIRLS SUCCEED IN SCIENCE, TECHNOLOGY, ENGINEERING AND MATHS

Mosatche, Lawner, Nieves • 9781743304174

Regardless of a daughter's age parents will find tips they can immediately use to help combat the gender imbalance in STEM areas. Whether they need to advocate for gender-neutral, STEM-enriched classrooms or want to encourage creative problem solving and persistence in their daughters, readers will find ideas to take action to help the girls in their lives break through the barriers and achieve success in STEM.

**PRU4174 • \$29.95**



### THE BIG IDEAS OF NANOSCALE SCIENCE & ENGINEERING, GRADES 7-12

Stevens, Sutherland, Krajcik • 9781760010973

Give the ability of nanoscience and nanotechnology to exploit the unique properties that matter exhibits at the nanoscale, the research resulting from there emerging fields is poised to dramatically affect everyday life. In fact, many widely used electronic, pharmaceutical, cosmetic and textile products already employ nanotechnology. This volume provides in-depth discussions of each big idea. Nine additional chapters examine learning goals and how to reach them, students' likely misconceptions and ideas for integrating

nanoscale science and engineering with traditional science content.

**NST0973 • \$21.95**

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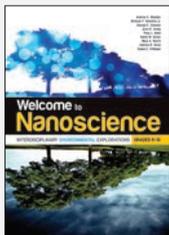
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### CLONES, CATS, AND CHEMICALS

Irwin Slesnick • 9781760010812  
This book challenges students to confront scientific and social problems that offer few black-and-white choices. They're presented as 10 dilemmas from the fields of biology, chemistry, physics, Earth science, technology and mathematics. Each question is presented as a two-part unit: concise scientific background and possible alternative resolutions for the teacher and a reproducible essay, questions and activities to guide students in debating and decision making.

**NST0812 • \$9.95**



### WELCOME TO NANOSCIENCE, 9-12

Andrew Madden, Michael Hochella, et al • 9781760011147  
This book helps biology, chemistry and Earth science teachers introduce the revolutionary fields of nanoscience and nanotechnology to secondary school students through the unique framework of the environment. Comprising of two parts. It provides background material for the teacher and describes how education in nanoscience and nanotechnology addresses science standards, and outlines the curriculum. Each classroom-tested, inquiry-based investigation follows the BSCS 5E Instructional

Model and includes step-by-step procedures, materials lists and data charts.

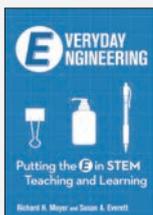
**NST1147 • \$29.95**



### MORE EVERYDAY ENGINEERING

Susan Everett, Richard Moyer • 9781760561079  
What makes a windup toy get up and go? And why does the line you're waiting in always seem the slowest? Get middle-schoolers engaged in the fascinating science behind familiar items. Thirteen hands-on investigations focus on three aspects of engineering: designing and building, reverse engineering to learn how something works, and constructing and testing models.

**NST1079 • \$39.95**

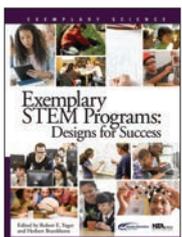


### EVERYDAY ENGINEERING

Richard Moyer, Susan Everett • 9781760010577  
This collection is made up of 14 activities that explore engineering's role in five areas: the office, the kitchen, the bathroom, electricity, and outdoor recreation. Students can perform hands-on investigations of objects they use all the time, asking questions such as: What makes a Bic click? Why do squirt guns squirt? What makes a better cereal box? Each activity includes a clear explanation of the science and history behind the object's development

plus a materials list, student data sheets, and safety suggestions.

**NST0577 • \$29.95**



### EXEMPLARY STEM PROGRAMS

Robert Yager, Herbert Brunkhorst • 9781760019112  
This book tells the inside stories of 24 science, technology, engineering and mathematics programs that both connect with the Next Generation Science Standards and lead to successful student learning. The featured programs make it clear that STEM education can work for all age levels and in a variety of settings - traditional classrooms, charter and magnet schools, informal education programs, and after-school and summer activities.

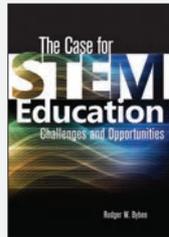
**NST9112 • \$69.95**

### USING PHYSICAL SCIENCE GADGETS & GIZMOS

What teacher – or student – can resist books with titles like these? The Gadgets and Gizmos books feature Drinking Birds, Dropper Poppers, Boomwhackers, Flying Pigs and more. These year-level appropriate experiments let students explore a variety of phenomena involving pressure and force, thermodynamics, light and colour, resonance, buoyancy and two-dimensional motion.

The phenomenon-based learning (PBL) approach used by the authors is as educational as the demonstrations are attention-grabbing. Instead of putting the theory before application, PBL encourages students to first experience how gadgets work and then grow curious enough to find out why. Students engage in the activities not as a task to be completed but as exploration and discovery.

Matthew Bobrowsky, Mikko Korhonen, Jukka Kohtamaki



### THE CASE FOR STEM EDUCATION:

Challenges and Opportunities  
Rodger Bybee • 9781760010560  
This book will help you both understand and implement STEM action plans. This book puts emphasis on both thinking and acting. A must-read for leaders at all levels: national and state policy makers, state-level educators responsible for STEM initiatives, college and university faculty who educate future STEM teachers, local administrators who make decisions about district and school programs, and teachers who represent STEM disciplines.

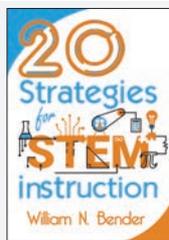
**NST0560 • \$45.95**



### HELPING STUDENTS MAKE SENSE OF THE WORLD USING NEXT GENERATION SCIENCE AND ENGINEERING PRACTICES

Schwarz, Passmore, Reiser • 9781760561208  
When it's time for a game change, you need a guide to *Helping Students Make Sense of the World Using Next Generation Science and Engineering Practices* provides a play-by-play understanding of the practices strand of A Framework for K-12 Science Education (Framework) and the Next Generation Science Standards (NGSS). Written in clear, nontechnical language, this book provides a wealth of real-world examples to show you what's different about practice-centered teaching and learning at all grade levels.

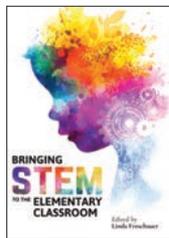
**NST1208 • \$55.95**



### 20 STRATEGIES FOR STEM INSTRUCTION

William Bender • 9781760019990  
Author William N. Bender, PhD, provides customisable, step-by-step guidelines for teaching strategies shown to strengthen STEM (Science, Technology, Engineering and Mathematics) instruction. Exploring the latest trends and teaching techniques, Bender highlights research evidence and offers practical advice to help teachers integrate project-based learning with STEM, modify strategies to meet the needs of each learner, use engineering design principals to focus on real-world problems and emphasise teamwork and collaboration around rigorous maths and science content.

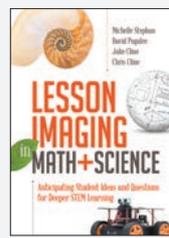
**LSM9990 • \$37.95**



### BRINGING STEM TO THE ELEMENTARY CLASSROOM

Linda Froschauer • 9781760010461  
*Bringing STEM to the Elementary Classroom* is a comprehensive source of classroom-tested STEM investigations. The 36 lessons are conveniently organized into grade-level bands; grounded in science education research; designed to encourage learning across disciplines, promote real-world problem-solving skills, introduce children to STEM careers, and serve all students equally well; and connected to all elements of the Next Generation Science Standards.

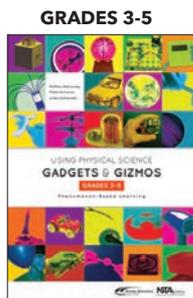
**NST0461 • \$45.95**



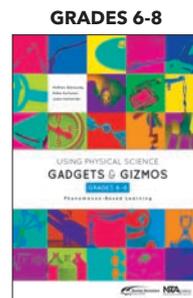
### LESSON IMAGING IN MATH AND SCIENCE

Stephan, Pugalee, Cline • 9781760562861  
From respected voices in STEM education comes an innovative lesson planning approach to help turn students into problem solvers: lesson imaging. In this approach, teachers anticipate how chosen activities will unfold in real time - what solutions, questions, and misconceptions students might have and how teachers can promote deeper reasoning.

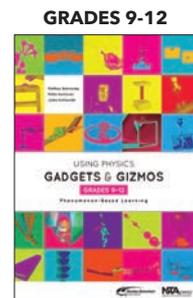
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**NST9129 • \$45.95**



**NST9235 • \$45.95**



**NST9242 • \$49.95**



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