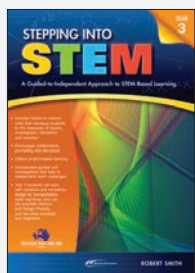




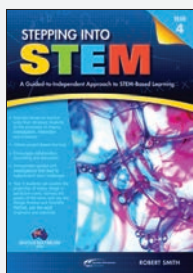
RESOURCES



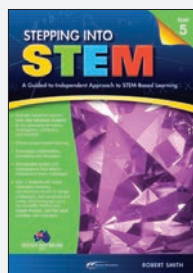
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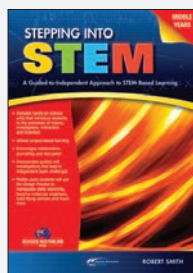
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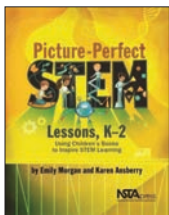
TCR4988

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



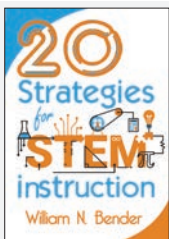
PICTURE-PERFECT STEM LESSONS, 3-5

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



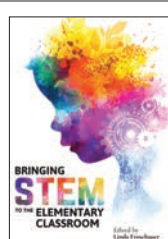
20 STRATEGIES FOR STEM INSTRUCTION

William Bender • 9781760019990

In *20 Strategies for STEM Instruction*, 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



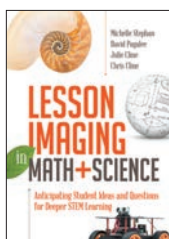
BRINGING STEM TO THE ELEMENTARY CLASSROOM

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

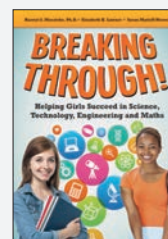


LESSON IMAGING IN MATH AND SCIENCE: ANTICIPATING STUDENT IDEAS AND QUESTIONS FOR DEEPER STEM LEARNING

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.

117008 • \$39.95



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



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. *Models and Approaches* is a vital resource for

state, district, and school leaders as well as classroom teachers.

NST0584 • \$55.95



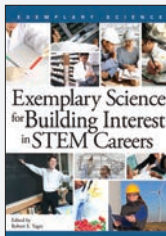
INTEGRATING ENGINEERING AND SCIENCE IN YOUR CLASSROOM

Eric Brunzell • 9781760010904

From the very first day you use them, the design challenges in this compendium will spur your students to jump right in and engage through the entire class. The activities reinforce important science content while illustrating a range of STEM skills. *Integrating Engineering and Science in Your Classroom* 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



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. This is the best plan for getting more students interested in pursuing STEM careers after school.

NST0591 • \$45.95



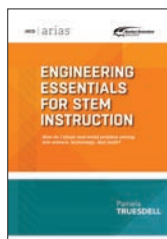
STEM STUDENT RESEARCH HANDBOOK

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.

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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

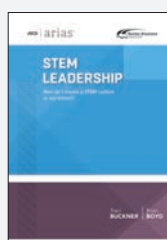


MORE PICTURE-PERFECT SCIENCE LESSONS: Using Children's Books to Guide Inquiry, F-4

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



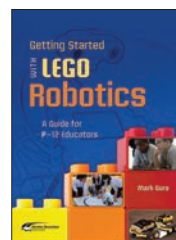
STEM LEADERSHIP: ASCD Arias Publication

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. You'll get advice on creating a structure to help teachers examine, discuss and improve students'

learning experiences. And you'll learn how to support teachers in designing challenging lessons that foster students' curiosity and ingenuity in working on real-world problems.

SF114081 • \$15.00

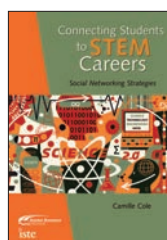


GETTING STARTED WITH LEGO ROBOTICS

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

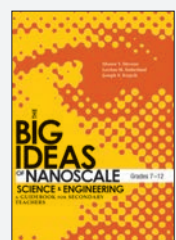


CONNECTING STUDENTS STEM CAREERS TO SOCIAL NETWORKING STRATEGIES

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



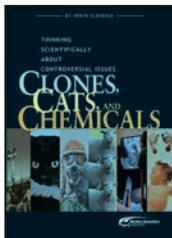
THE BIG IDEAS OF NANOSCALE SCIENCE & ENGINEERING, GRADES 7-12

Shawn Stevens, LeeAnn Sutherland, Joseph 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



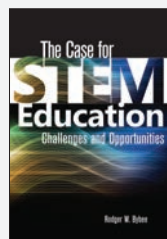
CLONES, CATS, AND CHEMICALS

Irwin Slesnick • 9781760010812

If you want students to think - really think - about the science behind some of today's toughest controversies, this book will give you both the facts and the framework to provoke fascinating discussions. *Clones, Cats, and Chemicals* 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.

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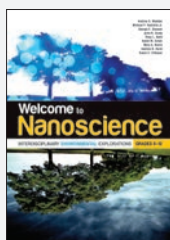


THE CASE FOR STEM EDUCATION: Challenges and Opportunities

Rodger Bybee • 9781760010560

If you're an education leader this book will help you both understand and implement STEM action plans. This book puts emphasis on both thinking and acting. That's why *The Case for STEM Education* is 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



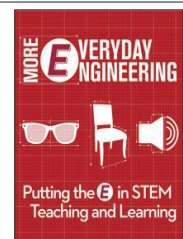
WELCOME TO NANOSCIENCE, 9-12

Andrew Madden, Michael Hochella, et al • 9781760011147

Welcome to Nanoscience 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, specifically groundwater pollution. This volume comprises two parts. The first 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

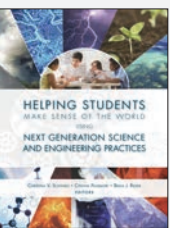


MORE EVERYDAY ENGINEERING: Putting the E in STEM Teaching and Learning

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.

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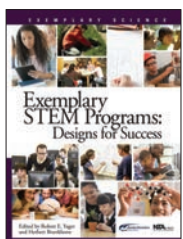
HELPING STUDENTS MAKE SENSE OF THE WORLD USING NEXT GENERATION SCIENCE AND ENGINEERING PRACTICES

Christina Schwarz, Cynthia Passmore, Brian Reiser • 9781760561208

When it's time for a game change, you need a guide to the new rules. *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



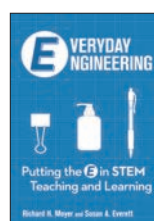
EXEMPLARY STEM PROGRAMS

Robert Yager, Herbert Brunkhorst • 9781760019112

Everybody talks about STEM initiatives, but is anybody doing them effectively? This book's answer is a resounding yes! It 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.

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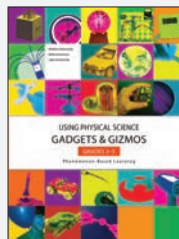
EVERYDAY ENGINEERING

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.

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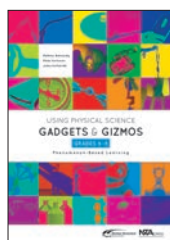
USING PHYSICAL SCIENCE GADGETS & GIZMOS, GRADES 3-5

Matthew Bobrowsky, Mikko Korhonen, Jukka Kohtamaki • 9781760019129

Resist the chance to experiment with Velocity Radar Guns, Running Parachutes, Super Solar Racer Cars and more? The 30 experiments in *Using Physical Science Gadgets and Gizmos, Grades 3-5*, lets your primary school students explore a variety of phenomena across a range of topics. The phenomenon-based learning (PBL) approach used by the authors is as educational

as the experiments are attention-grabbing. Instead of putting the theory before the application, PBL encourages students to first experience how the gadgets work and then grow curious enough to find out why.

NST9129 • \$45.95



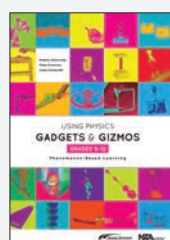
USING PHYSICAL SCIENCE GADGETS & GIZMOS, GRADES 6-8

Matthew Bobrowsky, Mikko Korhonen, Jukka Kohtamaki • 9781760019235

What student - or teacher - can resist the chance to experiment with Rocket Launchers, Sound Pipes, Drinking Birds, Dropper Poppers and more? The phenomenon-based learning (PBL) approach used by the authors is as educational as the experiments are attention-grabbing. Instead of putting the theory before the application, PBL encourages students to first

experience how the gadgets work and then grow curious enough to find out why. Help students learn broader concepts, useful thinking skills, and science and engineering practices, while having have some serious fun.

NST9235 • \$45.95



USING PHYSICS GADGETS & GIZMOS, GRADES 9-12

Matthew Bobrowsky, Mikko Korhonen, Jukka Kohtamaki • 9781760019242

54 experiments to encourage your secondary school students to explore a variety of phenomena across a range of topics. The phenomenon-based learning (PBL) approach used by the authors is as educational as the experiments are attention-grabbing. Instead of putting the theory before the application, PBL encourages students to first experience how the gadgets work and then grow

curious enough to find out why.

NST9242 • \$49.95

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NST0843	Even More Brain-Powered Science	\$37.95	
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TCR4957	Stepping Into STEM Year 3	\$49.95	
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TCR4971	Stepping Into STEM Year 5	\$49.95	
TCR4988	Stepping Into STEM Middle Years	\$49.95	
NST0973	The Big Ideas of Nanoscale Science & Engineering, 7-12	\$21.95	
NST0560	The Case for STEM Education	\$45.95	
NST9129	Using Physical Science Gadgets & Gizmos, 3-5	\$45.95	
NST9235	Using Physical Science Gadgets & Gizmos, 6-8	\$45.95	
NST9242	Using Physics Gadgets & Gizmos, 9-12	\$49.95	
NST1147	Welcome to Nanoscience, 9-12	\$29.95	
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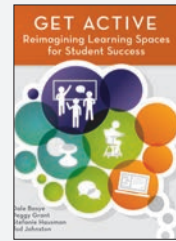
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GET ACTIVE

Johnston, Hausman, Basye, Grant • 9781760019839
Active learning spaces offer students opportunities to engage, collaborate and learn in an environment that taps into their innate curiosity and creativity. With the rise in mobile learning, personalized learning, project-based learning, and active learning experiences, a more flexible and adaptable learning environment will help to better prepare students for the modern workplace.

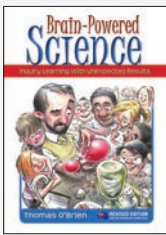
IST9839 • \$29.95



DRONES IN EDUCATION

Crowley, Zieger, Carnahan • 9781760560959
Written for educators who want to incorporate drones into their curriculum but have no idea where to start. It will cover all that you need to need to know to get off of the ground with a drone program in your school. It covers such basic but important information as which drones need to be registered and where you can fly them. It also provides recommendations as to the drones that are best for specific students' age levels and subject areas.

IST0959 • \$29.95



BRAIN-POWERED SCIENCE

Thomas O'Brien • 9781760010805
While this book is designed for use with Year 6-12 students, F-5 Australian Curriculum: Science content descriptions are also included to illustrate the appropriate prerequisite work that students should engage in prior to participating in these activities. This thought-provoking text includes many up-to-date online resources, as well as extensions to each of the physical science, biology and chemistry activities.

NST0805 • \$37.95



MORE BRAIN-POWERED SCIENCE

Thomas O'Brien • 9781760010935
Thomas O'Brien uses 22 inquiry-oriented discrepant events to challenge students' preconceived ideas and urge them to critically examine evidence, draw inferences and review their initial explanations with their peers. *More Brain-Powered Science* is the perfect dual-purpose activity book for Years 6-12 science teachers who aim to stimulate and motivate their students while expanding their own scientific understanding. This revised Australian edition features correlations with the strands of the

Australian Curriculum: Science, including various content descriptions for the science activities.

NST0935 • \$37.95



EVEN MORE BRAIN-POWERED SCIENCE

Thomas O'Brien • 9781760010843
This Australian edition of *Even More Brain-Powered Science* uses 13 inquiry-oriented, discrepant events to dispute misconceptions and challenge students to critically examine evidence, draw inferences and review their initial explanations with their peers. These interactive lessons use readily available, inexpensive materials to engage the natural curiosity of both teachers and students and create new levels of scientific understanding, and include links the Australian Curriculum: Science, including

the rationale, aims, cross-curriculum priorities, content descriptions and links to other learning areas.

NST0843 • \$37.95

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