Want to know how to implement authentic STEM teaching into your classroom? *STEM Lesson Essentials* will provide you with the tools and strategies needed to design integrated, interdisciplinary STEM lessons which are relevant and exciting to your students. This book will give you the confidence and knowledge needed to become a true STEM educator.
“The real power of STEM lies in the integration of the subject areas so that students begin to see how the concepts and skills from different disciplines can work together to help them answer intriguing questions and solve meaningful problems. How many times have students asked, ‘Why are we learning this?’ or ‘What will I ever do with this?’ STEM design challenges the ‘So what?’ factor in the classroom.”

—Jo Anne Vasquez, Cary Sneider, and Michael Comer

STEM Lesson Essentials
Integrating Science, Technology, Engineering, and Mathematics

With clear definitions of both STEM and STEM literacy, Jo Anne Vasquez, Cary Sneider, and Michael Comer argue that STEM in itself is not a curriculum, but rather a way of organizing and delivering instruction by weaving the four disciplines together in intentional ways. Rather than adding two new subjects to the curriculum, the engineering and technology practices can instead be blended into existing math and science lessons in ways that engage students and help them master 21st century skills.

STEM Lesson Essentials show 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
• lesson planning templates for STEM units.

Explicit connections are made among the STEM practices, including the Common Core Standards for Mathematical Practice and the Framework for K-12 Science Education, help you easily recognize ways in which STEM lessons can engage students in multiple standards at the same time.

With ideas that are practical and achievable in any classroom, STEM Lesson Essentials will give you the confidence and knowledge to weave engineering and technology concepts into your math and science curriculum. STEM teaching doesn’t have to be hard. You just have to get started. Try it out with STEM Lesson Essentials, and watch student understanding, achievement, and motivation soar.

Grades 3-8 / 978-0-325-04358-6 / 2013 / 192pp / $21.00

STEM Lesson Essentials moves beyond the rhetoric and provides knowledge, tools, models, and examples that make STEM a reality of teaching and learning in classrooms. This book moves the discussion about STEM to where it should be—in schools, classrooms, and the hands of professional teachers.

—Rodger Bybee