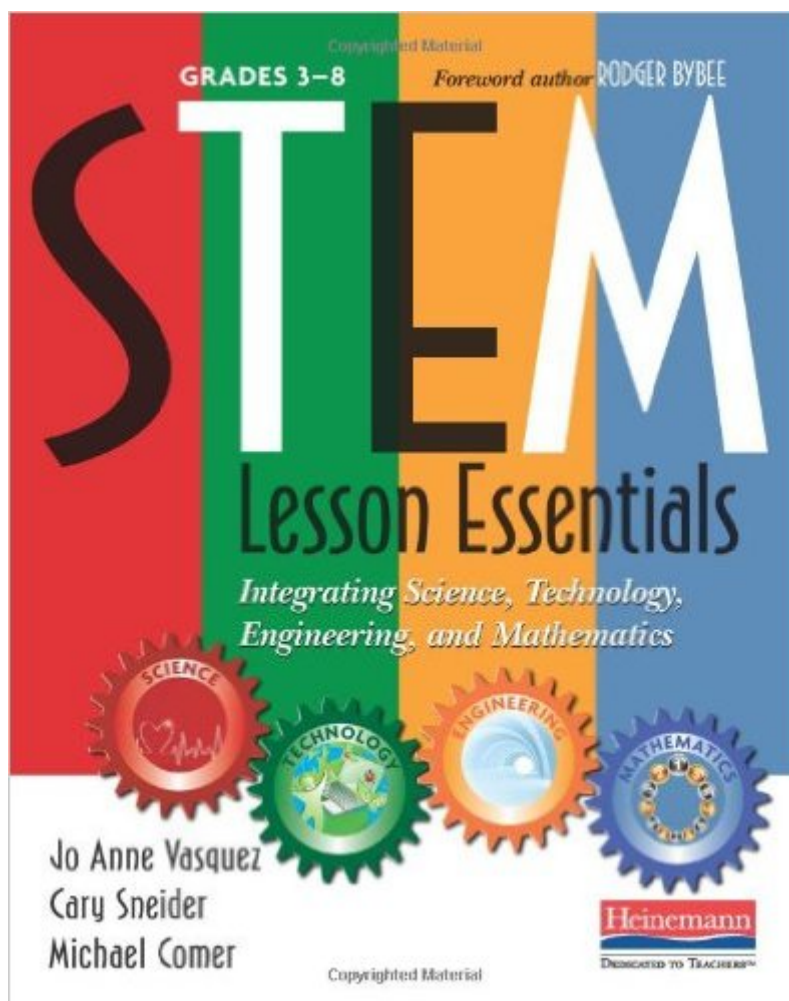


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# STEM Lesson Essentials, Grades 3-8: Integrating Science, Technology, Engineering, And Mathematics



## Synopsis

"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." -Rodger Bybee, Executive Director (Retired), Biological Sciences Curriculum Study

Want to know how to implement authentic STEM teaching and learning into your classroom? STEM Lesson Essentials provides all the tools and strategies you'll need to design integrated, interdisciplinary STEM lessons and units that are relevant and exciting to your students. With clear definitions of both STEM and STEM literacy, the authors 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 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
- 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, helping 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.

## Book Information

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Mathematics

Age Range: 8 - 13 years

Grade Level: 3 - 8

## Customer Reviews

I bought this book when our school became a STEM school. It contains some decent information about STEM, but no practical way to implement STEM lessons in your classroom or how to adapt existing lessons to a STEM focus. Very disappointed in the purchase, did not contain any information that I was really looking for in regards to STEM. Save your money and go to the Internet blogs--they have a lot more practical information about STEM!

This book is invaluable especially if you team it up with the NSTA seminar of the same title, [...]My favorite part of the book is when the authors list the five guiding principles for effective STEM instruction and sample activities. This book is a resource identifying the characteristics of STEM, it is not a how to book full of STEM activities to use. The authors make you think and analyze your own practice causing you to become STEM practitioners.

I read through this book in a couple of hours and then immediately placed it back on the shelf to sell. It's ok, but it wasn't for my particular uses. Maybe I didn't read the description of the book closely enough. I guess I saw the title of "STEM Lesson Essentials" and thought it would cover actual lessons (there are a few examples), but this book is more about how to incorporate STEM, assessment tools, defining STEM and implementation. I teach home school children of middle/high school level in the sciences. I'm beginning a STEM class this year for 8th-9th graders in order to have them better prepared for the study skill requirements of high school/AP courses. Most of the teaching style and implementation of STEM into unit-type studies and so forth are second nature to any home schooling parent and were not useful to me. I was looking more for lesson ideas, lab ideas and things like that. I think that in the right hands, this book could have value.

If you already know what the STEM acronym means and you want to add depth to your knowledge and understanding, STEM Lesson Essentials is a good book for you. It is an easy read, which is

great for the busy teacher with limited time, so you'll be able to use what you learn quickly. Chapters are short and focused, with vignettes of STEM integration in action and reflection questions that can be used in a Professional Learning Community. I've used this book as part of an online PLC dedicated to Integration of Math and Science in K-8, and participants found the chapter on STEM assessment particularly helpful. This is a well-written, useful resource book for pre-service and classroom teachers.

I have learned a lot about what STEM is and why it is important to use as we teach our students to be better prepared for their future. I would have liked a little more information on ideas to use in the classroom to reach this goal.

STEM is a hot topic, and this book includes lots of good info. I used it recently when I taught a group of teachers, and they enjoyed the activities we used. A good one for classroom teachers!

These lessons were very helpful in my classroom. As we move to a more STEM environment, it is important to incorporate this into classrooms to get our young learners ready for their future. Highly recommend this book!

The book was easy to follow and written for educators using the language of the profession. I found the examples to be very helpful.

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