Beyond the Egg Drop: Infusing Engineering Into High School Physics

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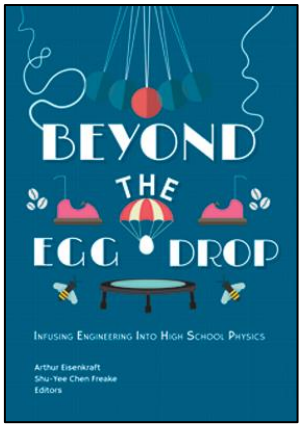

Summary

How can we interweave opportunities to learn engineering concepts and skills in an already-packed science curriculum? That was the problem that 30 Boston-area high-school physics teachers aimed to solve when they took part in Project Infuse, a National Science Foundation study. Discover their practical solutions in this book, *Beyond the Egg Drop*, which is designed to enable physics teachers to expose students to engineering as they teach physics.

Beyond the Egg Drop is a user-friendly resource that does the following:

- Answers the Next Generation Science Standards' (NGSS's) call to add an engineering focus to your lessons so students can take part in authentic STEM experiences.
- Provides a thorough discussion on the rationale, justification, meaning, and implementation of integrating engineering into your science curriculum.
- Offers 24 engineering-infused physics lessons that include examples of student work; cover assessment, teaching, and student learning; and connect to the major content areas of physics, *A Framework for K-12 Science Education*, and the NGSS.
- Covers mechanics, optics, electricity and thermodynamics in lively lessons with engaging titles such as "Bungee Jumping Cord Design" and Lights Out! Zombie Apocalypse Flashlight."

And here's another problem-solving feature you're bound to appreciate: The lessons vary in length, so you can use them to fit the need of your own classes. Some require part of a class period, others can take days or weeks. Some are activators that are best used before and discussion of physics principles; others work as capstones. All of the lessons are teacher-tested, so you can be sure they'll include engineering concepts and skills without making you restructure your existing physics curriculum.

Other Resources

- *Exemplary STEM Programs: Designs for Success* (NST9112)
- *Everyday Engineering: Putting the E in STEM Teaching and Learning* (NST0577)
- *Models and Approaches to STEM Professional Development* (NST0584)
- *Exemplary Science for Building Interest in STEM Careers* (NST0591)