

## Additional Engineering Resources

### [A Sightseer's Guide to Engineering Grades 3-8](#)

Take a virtual trip across the United States to learn more about how engineers make our lives safer, easier, and more fun!

### [Center for the Advancement of Scholarship on Engineering Education](#)

The first operating center of the National Academy of Engineering dedicated to achieving excellence in engineering education. Numerous resources organized by portals ranging from research on practice, to engagement of women and girls in engineering to multimedia resources.

### [Engineering Research Overview](#)

National Science Foundation website that addresses current research by engineers such as How do engineers help improve health?, What role do engineers play in national security?, How do engineers strengthen the economy?, Why are engineers exploring nanotechnology? Includes an interactive portal Engineering at All Scales.

### [Extreme Engineering](#) Grades 7-12

Take virtual tours and interactive journeys of incredible mechanical feats and amazing constructions including Boston's Big Dig, New York's New Subway, Trans Atlantic Trains, Tokyo's Sky City, and more. From the *Discovery Channel*.

### [Family Engineering](#) Grades 1-6

Modeled after Family Science and Family Math, Family Engineering is a program that actively engages elementary children (ages 7-12) and their families in fun, hands-on, engineering activities and events. The Family Engineering program offers an Activity and Event Planning Guide to aid school groups and communities to host a Family Engineering event.

### [Grand Challenges for Engineering](#) Grades 7-12

The National Academy of Engineering has identified 14 areas awaiting engineering solutions in the 21st century. Site includes background information on each identified challenge, provides a platform for global thinking of these challenges and additional resources and opportunities for educators.

### [Greatest Engineering Achievements of the 20th Century](#) Grades 7-12

A listing of the top 20 achievements of the 20th Century based on the book *A Century of Innovation*. Information about how each technology changed the world; the role engineering played in its development and view a historical timeline describing its progress.

### [KIDS As Planners: A Guide to Strengthening Students, Schools, and Communities through Service-Learning](#)

This popular guide, now in a revised and expanded third edition, provides teachers and school administrators with a road map for integrating service-learning into their classes and curriculum. By engaging students in real-world problem-solving, service-learning helps expand content knowledge, engage students and teachers, foster good citizenship, and meet the needs of diverse learners.

### [Occupational Outlook Handbook](#) Grades 7-12

Handbook describing hundreds of jobs, the training and education needed, earnings, expected job prospects, what workers do on the job, and working conditions.

[Technically Speaking: Why All Americans Need to Know More About Technology](#) From the National Academy of Engineering, this book "clearly and decisively explains what it means to be a technologically-literate citizen" and discusses issues of concern including technological education in K-12 schools. Case studies of current issues convey why ordinary citizens need to understand technology to make responsible decisions.

### [The 15 Coolest Cases of Biomimicry](#) Grades 9-12

This site showcases biologically inspired engineering.