

# Engineering is Elementary resources from Washington County Extension For YOU and YOUR students FOR FREE!

Through special grant sources we have been able to purchase materials for YOU to use FOR FREE to help supplement what you are teaching in your classroom. Below are the engineering kits we have at the Washington County Extension Office for checkout. These guides have objectives and assessments with scope and sequence to match GEMS, FOSS, STC, Common Core and Next Generation Science Standards.

THEY ARE FUN and CHALLENGING and BRING THE SCIENTISTS OUT!

You can also get more information on any of the kits with pictures, videos, etc at [www.eie.org](http://www.eie.org) OR please feel free to call me with any questions and/or to make arrangements to see the kits and what might work for your students. ~ Amy Green, 319-653-4811

## Engineering is Elementary which is a more concise curriculum. 1<sup>st</sup>-5<sup>th</sup> grade

- **“A Long Way Down: Designing Parachutes”** Aerospace Engineering (drag, atmosphere, astronomy)
- **“The Best of Bugs: Designing Hand Pollinators”** Ag Engineering (global ag issues, natural pollination system, flower parts, pest management)
- **“Catching the Wind: Designing Windmills”** Mechanical Engineering (Wind energy, air, weather)
- **“Just Passing Through: Designing Model Membranes”** Bioengineering (organisms, basic needs)
- **“No Bones About It: Designing Knee Braces”** Biomedical Engineering (range of motion, bone models)
- **“Taking the Plunge: Designing Submersibles”** Ocean Engineering (floating/sinking, volume, mass)
- **“Water, Water Everywhere: Designing Water Filters”** Environmental Engineering (water quality, purification, human contributions to contamination)

## Engineering Adventures which is a more concise curriculum. 3<sup>rd</sup>- 5<sup>th</sup> grade

- **“Go Green: Engineering Recycled Racers”** Green Engineering (Environmental impact of technology, axels, wind energy, aerodynamics)
- **“Hop To It” Mechanical Engineering** (stop invasive species, habitat, food chains, adaptation)
- **“Shake Things Up: Engineering Earthquake Resistant Buildings** (foundations, braces, building codes, Richter scale)

## Engineering Everywhere which is a more concise curriculum. 5<sup>th</sup>-8<sup>th</sup> grade

- **“Outbreak Alert!”** Biomedical Engineering (pandemic response, disease control, cells)
- **“Put a Lid On It: Engineering Safety Helmets** Biomechanical Engineering (concussions, brain controls)

## Teacher Guide Only: (so materials would have to be gathered to execute the activities)

- **“A Work in Process: Improving Play Dough Process”** Unit (solids, liquids, and chemical engineering)
- **“Plants to Plastics”** Unit (bioplastics, reduce waste, environmental studies, chemical engineering)

*If there are other materials you need for you classroom or ways we can help, Washington County Extension/4-H works to provide education, build partnerships, and connect our community with Iowa State University research and resources. I have an education background and taught for six years – I love working with schools and in the classroom.*

*Please don't hesitate to contact me, I look forward to hearing from you!*

## IOWA STATE UNIVERSITY Extension and Outreach

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