What Does it Mean to “Engineer”? 

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Erin Fitzgerald, Engineering is Elementary Museum of Science, Boston
Goals for Today

• Learn more about the Engineering is Elementary project!

• Engage in an engineering design challenge.

• Make connections between the Tower Power! Engineering challenge and the NRC’s Successful K-12 STEM Education report.
Engineering is Elementary is a research-based, standards-driven, classroom-tested curriculum that integrates engineering and technology concepts and skills with elementary science topics.
Engineers... build buildings.
Engineers... build bridges and roads.
Engineers... fix cars, engines, and machines.
Engineers... use or fix computers.
Why Elementary Engineering? Why EiE?

Technological literacy is a basic 21st century literacy.

Engineering makes math and science relevant and integrates other disciplines.

Engineering practices build and reinforce 21st-century skills.

EiE increases students’ awareness of and access to engineering and science careers.

EiE is consistent with the Framework for K-12 Science Education.
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EiE Unit Structure

Prep Lesson: Technology in a Bag

Lesson 1: Engineering Story

Lesson 2: A Broader View of an Engineering Field

Lesson 3: Scientific Data Inform Engineering Design

Lesson 4: Engineering Design Challenge
What is Engineering?
What is the problem?

What do you need to know before you start?
Using verbs, describe what you did during the design process.
The Engineering Design Process

 Criteria
Constraints
Science knowledge

Ask

Imagine
Brainstorming
No evaluation

The Goal
To solve a problem by developing or improving a technology.

Plan

Create

and test

Improve
Reflection

• What was fun and engaging about this activity?

• What was challenging about this activity?

• What aspects of this activity connect to the principles outlined in the NRC’s report?
Erin Fitzgerald:
efitzgerald@mos.org

Engineering is Elementary:
EiE@mos.org
www.eie.org

National Center for Technological Literacy:
www.nctl.org