

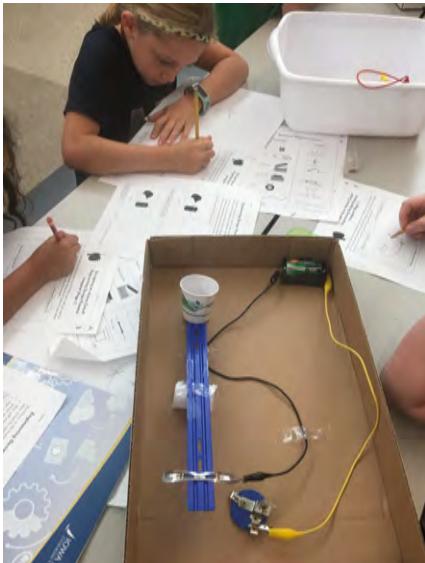
21st-Century Skills

In addition to introducing students to the excitement of engineering, EiE fosters valuable cognitive skills such as critical thinking, collaboration, communication, creativity, flexibility, persistence, and learning from failure.



“It was very fun watching other groups and designing with my group. I wish we could work on the activities longer.”

The engineering design process removes the stigma from failure; instead, failure is an important part of the problem-solving process and a positive way to learn. It is equally important that there's no single “right” answer in engineering; one problem can have many solutions.



Engineering is Elementary®

Developed by the Museum of Science, Boston

Engineering is Elementary (EIE) is a rigorously researched, classroom-tested curriculum that increases students' interest in and confidence about engineering. EiE is designed to encourage all children—including those from underrepresented groups—to envision themselves as potential engineers.

EiE units present fun, engaging engineering challenges that allow students to apply science knowledge in meaningful ways.

Cross-Curricular INTEGRATION

Each unit is introduced by a storybook about a child who solves a problem through engineering. Set in locations around the world, the storybooks integrate literacy and social studies—and provide context and meaning for the hands-on activities that follow.

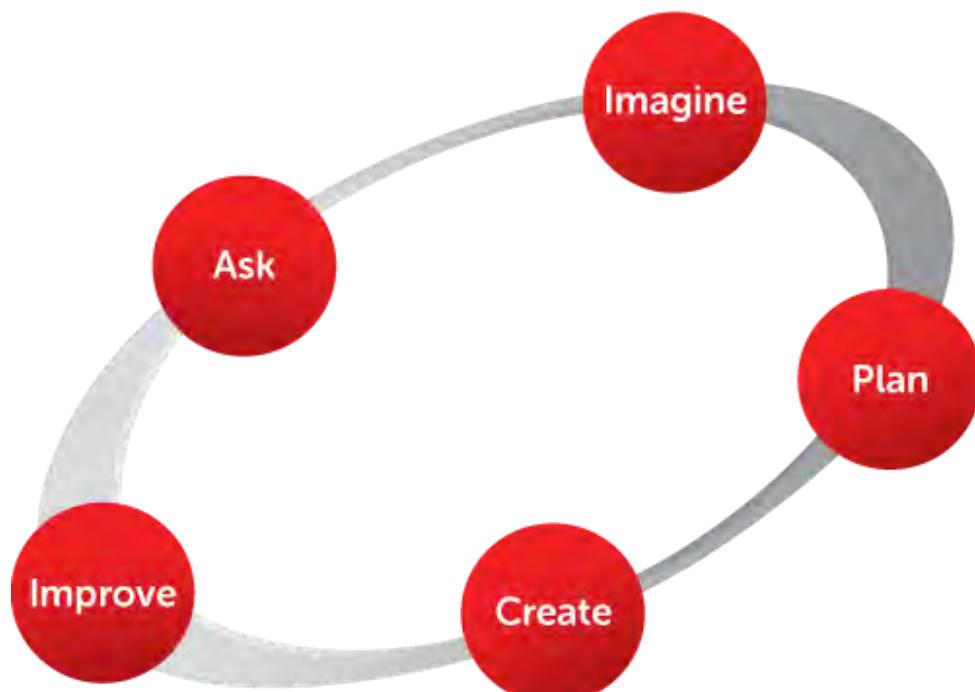


The Engineering Design Process

To solve engineering problems, engineers follow a series of steps called the “Engineering Design Process.”

A Five-Step Process

Because the EiE Project serves young children, we've created a simple Engineering Design Process (EDP) to guide students through our engineering design challenges. This EDP has just five steps and uses terms children can understand.



The Engineering Design Steps

ASK:

What is the problem? How have others approached it?
What are your constraints?

IMAGINE:

What are some solutions? Brainstorm ideas.
Choose the best one.

PLAN:

Draw a diagram. Make lists of materials you will need.

CREATE:

Follow your plan and create something. Test it out!

IMPROVE:

What works? What doesn't? What could work better?
Modify your design to make it better. Test it out!

