OUT-OF-SCHOOL SETTINGS | GRADES 3-5

Hop to It: Safe Removal of Invasive Species

Unit Overview

India and Jacob; a fictional, world-traveling brother and sister duo; guide kids through the engineering activities. In this unit, they have accidentally brought a cane toad from Australia to New Zealand. Cane toads are considered pests in this area of the world. They are an invasive species that hurts native plants and animals in Australia—and they could do the same in New Zealand. Kids will help India and Jacob engineer a humane trap to catch the toad.

Engineering Application/Unit Goals

Kids will use each step of the Engineering Design Process as they become mechanical engineers. Mechanical engineers are people who use their creativity and knowledge of science and math to solve problems related to machines. In this unit, kids design a trap to catch a cane toad. They use simple materials in creative ways to engineer a machine that can solve their problem.

Engineering Adventures engages learners in grades 3-5 in fun, creative problem solving. Eleven hands-on units are low-cost and flexible to meet the time and budget constraints of outof-school settings, including afterschool and summer camp. Each unit centers on meaningful, open-ended problems with a global context. Learners find out more about the role engineering plays in their lives and the world around them as they're introduced to real engineering challenges and asked to design solutions with an engineering design process. Throughout each unit, kids learn to collaborate, communicate, solve problems, and share their solutions with their peers.





Unit Map

Prep Adventure 1: What is Engineering?

Kids engineer a tower and are introduced to the Engineering Design Process as a problem-solving tool.

Prep Adventure 2: What is Technology?

Kids explore the idea that they, as engineers, can design and improve technology.

Adventure 1: Cane Toad Invasion

Kids are introduced to the problem: engineering a trap to catch invasive cane toads. They will also build some traps that need improvement in order to be successful.

Adventure 2: Create a Cane Toad Trap

Using their knowledge of the cane toad problem, kids will use the steps of the Engineering Design Process to engineer their own cane toad traps.

Adventure 3: Improve a Cane Toad Trap

Kids continue using the steps of the Engineering Design Process as they create their cane toad traps, test them, and improve their designs.

Adventure 4: Engineering Showcase

Kids present their cane toad traps and knowledge of the Engineering Design Process by creating Public Service Announcements that tell others about the dangers of cane toads.