



Elementary Engineering: Bridges and Structures

Provided by:

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Information	Program Description
3rd-5th Grade	Introduce your students to the exciting career of engineering as they develop abilities of technological design. Challenge your students to design a structure to meet a specific need. Working cooperatively, students will build a structure and evaluate their design, then communicate their design process and product. Focus of the unit is to
Curriculum Format	Each lesson can be presented in 45-60 minutes. Teaching Guide with complete instructions is provided. Teaching Kit with materials needed to present lessons is provided. User may need to provide standard classroom supplies (pencils, scissors, glue). If a lesson requires perishable items (e.g. milk), user is responsible for these purchases.

Lesson	Overview
One: Let's build a Bridge!	Using the bridge building kit, the class works together to build a truss bridge that is big enough for the students to crawl across
Two: What is an Engineer and What Does One Do?	Students explore the career of engineering.
Three: Strength and Structure	Students explore forces and the basic shapes that provide for strength in a structure.
Four: Introduction to Bridge Design and Building	Students explore the types of bridges around the world and in their community.
Five: Forming a Bridge Design Company	Students develop teamwork skills as they design a logo for their design company and become familiar with design team roles.
Six: Planning Your Bridge Design	Design teams develop a plan for their bridge design, including drawings And supplies needed.
Seven: Let's Get Building!	Students implement their bridge design and evaluate it for possible improvements.
Eight: Who Will Get the Contract?	Students present their design to the Department of Transportation. Other Engineering teams evaluate the design and provide suggestions for improvement.

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