



Course Description:

This course offers a collection of hands-on, design-based activities that foster critical thinking, creativity, and collaboration among young students. Through various projects, students will engage in ideation and iteration, learning to solve problems and improve their designs. The activities are designed to be fun and educational, providing a strong foundation in STEM principles.

Track: Innovation

Equipment, Curriculum, and Training Available:

- STEM Classics equipment kit for a class of 24 students
- 15 Lesson Hours Curriculum and supporting materials
- Ongoing product and curriculum support
- Professional development Facilitation by a trained STEM instructor (optional)

Lesson	Learning Target Examples
Creating Parachutes	Learn about air resistance and controlled landing by building parachutes.
Egg Drop Devices	Apply shock absorption and impact resistance concepts by designing a device to protect an egg from a high drop.
Building with Blocks	Explore stability and precision in building using wooden blocks.
Rubber Band Powered Cars	Learn about potential and kinetic energy by building cars powered by rubber bands.
Water Filtration Systems	Understand basic environmental engineering concepts for clean water.
Building Bridges	Explore structural engineering by designing and building bridges.
Creating Towers	Learn about balance and center of gravity by building towers.
Simple Machines	Understand basic mechanics by creating simple machines like levers and pulleys.
Balloon Rockets	Explore propulsion by creating balloon-powered rockets.
Paper Airplanes	Learn about aerodynamics by designing and testing paper airplanes.
Catapults	Understand force and trajectory by building catapults.
Solar Ovens	Introduce renewable energy concepts by building and using simple solar ovens.
Wind Turbines	Understand wind energy by constructing small wind turbines.
Shadow Structures	Explore light and shadow by building structures that cast interesting shadows.
Course Project Presentation	Apply the engineering design process learned in the course.