8th Grade

Force and Motion Engineering Internship

Delivering Pods for Emergency Supplies

Driving Question: As mechanical engineering interns, how can we design a supply pod that will deliver humanitarian aid packages to people in disaster-stricken locations?

Content: Students dive into a hands-on engineering internship simulation where they take on the challenge of designing, testing, and refining an emergency supply drop pod! With every step, they'll apply their knowledge of force and motion to balance real-world goals—protecting cargo, building durable pods, and keeping costs low—while sharpening their skills in engineering design, data analysis, and scientific communication.

Standards: NGSS: **MS-ETS1-1. Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.MS-ETS1-2. Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.MS-ETS1-3. Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.MS-ETS1-4. Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved.**

Major Products: Students will design an optimal emergency supply drop pod, create a written proposal, and create a proposal presentation.

Public Presentation: **Projects will be presented in class and open to the public for viewing. Presentations will be filmed as well. Students will present to peers, staff, family members, and other community stakeholders, such as mechanical engineers, or disaster workers.**

Images from Amplify Science: