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## Lesson Plans

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## Design and Build a Better Candy Bag

### Download Full Lesson Plan

(Full teacher resource documents are included)

### Lesson Focus

Demonstrate how product design differences can affect the success of a final product -- in this case a bag for holding candy. Students work in pairs to evaluate, design, and build a better candy bag.

### Lesson Synopsis

The Design and Build a Better Candy Bag activity encourages students to work in pairs to design, build, and test a candy bag. Students will predict the volume and strength of their original design, sketch the design, create a model candy bag, and then test their bag using weight. After testing, students redesign their bag to improve it, and then retest. Student pairs make predictions, compare results, and discuss their findings.

**Age Levels:** 8-18

### Objectives

- Learn how design impacts product performance.
- Design a better candy bag using science, mathematics, and engineering concepts and applications.
- Build a better candy bag using science, mathematics and engineering design concepts and applications.
- Use the engineering design process to solve the problem.
- Employ the use of data collection and analysis to help solve the problem.

### Anticipated Learner Outcomes



- engineering design process
- teamwork in the design process
- making and testing predictions
- product design challenges

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### Lesson Activities

Student teams will design a candy bag, and predict the volume and strength of their design. Students then build a model of their design, redesign it, build an improved bag, retest using weight, discuss findings, and share results.

### Resources/Materials

- Teacher Resource Documents (attached)
- Student Worksheets (attached)
- Student Resource Sheets (attached)

### Alignment to Curriculum Frameworks

Curriculum alignment sheet is included in [PDE](#).

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