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## Lesson Plans

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## A Century of Plastics

### Download Full Lesson Plan

(Full teacher resource documents are included)

### Lesson Focus

Lesson focuses on how plastics of all sorts have been engineered into everyday products over the past century, with emphasis on materials selection and engineering.

### Lesson Synopsis

The Century of Plastics activity explores the how the development of plastics and the engineering of plastic components into everyday products has impacted the world. Students learn about the history of plastics, what plastics engineers do, and how many products have been enhanced through the addition of plastic components. Students work in teams to identify products without plastic, and products they think could not exist in a pre-plastic world. They work as teams of "engineers" to see if they can redesign a product to use 50% less plastic components than in current designs.

**Age Levels:** 8-18

### Objectives

- Learn about plastics.
- Learn about how plastics have been engineered into so many common products.
- Learn about teamwork and the engineering problem solving/design process.

### Anticipated Learner Outcomes

As a result of this activity, students should develop an understanding of:



- plastics
- materials and plastics engineering
- impact of engineering and technology on society
- engineering problem solving
- teamwork

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### Lesson Activities

Students learn about how the development of plastics and the engineering of plastics into everyday products have impacted our world. Topics examined include problem solving, teamwork, and the engineering design process. Students work in teams to identify products which they think could not exist without plastics and redesign to use fewer plastic components to make it easier to recycle, then present to class.

### Resources/Materials

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

### Alignment to Curriculum Frameworks

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

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