

Defining Problems Activity

#2: Pringles Potato Chip Mailing Challenge

1. Show the students a single Pringles potato chip. Tell them that they have been requested to ship a single chip through the mail. Engage the students in a question/answer discussion that lead them to DEFINE THE PROBLEM and then determine the CONSTRAINTS of the challenge. Do NOT tell them the constraints ahead of time, lead them to the constraints through the discussion. Use the [Pringles Potato Chip Mailing Challenge](#) document (from Google Docs) as a facilitator guide.
2. After students have finished, lead a discussion of what was written.

Related Crosscutting Concepts:

- [Cause & Effect](#)
- [Scale, Proportion & Quantity](#)
- [Systems & System Models](#)
- [Structure & Function](#)
- [Stability & Change](#)

Related Disciplinary Core Ideas:

- [Core Idea PS1: Matter and Its Interactions](#)
 - [PS1.A: Structure and Properties of Matter](#)
- [Core Idea PS2: Motion and Stability: Forces and Interactions](#)
 - [PS2.A: Forces and Motion](#)
 - [PS2.B: Types of Interactions](#)
 - [PS2.C: Stability and Instability in Physical Systems](#)

- Core Idea ETS1: Engineering Design
 - ETS1.A: Defining and Delimiting an Engineering Problem
 - ETS1.B: Developing Possible Solutions
 - ETS1.C: Optimizing the Design Solution
- Core Idea ETS2: Links Among Engineering, Technology, Science, and Society
 - ETS2.A: Interdependence of Science, Engineering, and Technology