

Invention Group

You are an **Accomplished Polymer Scientist**

Your Background and Biography

Ever since you can remember, from your earliest recollections of life as a bright, studious child, you have been enthralled by the study of chemistry. Your parents, who had fled to the United States from totalitarian Soviet rule in Eastern Europe after World War II, made sure you worked hard at school and were attentive to your lessons. In fact, the entire neighborhood of immigrant families in New York where you grew up encouraged your success as a student. That support, and your own intelligence and hard work, paid off: you graduated from high school when you were only 16, and you earned your Ph.D. from Columbia University at the remarkably young age of 21.

You began your productive career working in research and development for a major technology company, where you specialized in polymers and eventually became the company's director of communications-technology research. You recently left the corporate world and joined the faculty of the Massachusetts Institute of Technology as a professor of chemical engineering, where you enjoy sharing your knowledge with some of the most brilliant students in the world. For their part your students treat you like something of a scientific celebrity, and, without being immodest or boastful, you realize that they have good reasons for looking up to you. Over the course of your career you have been instrumental in developing a number of important, innovative ways to use plastic in the advancement of communications and information technology. You were instrumental in developing plastics that allow for miniaturization in microchips, which has in turn allowed for the ever-increasing speed, efficiency, and capacity of electronics, even while they become less expensive to produce. The cell phone, a ubiquitous possession and everyday communications lifeline for so many Americans, probably wouldn't exist without your work on polymers. The same can be said of many of the electronic devices and implements that make up the technological landscape that many Americans take for granted. We've used plastics to achieve tremendous technological advancement over the span of a lifetime, and you're fascinated about where plastics might allow us to go over the next few decades.

You are aware of some of the troublesome side effects of plastics, and you hope that we will be able to use our human intelligence and diligence to arrive at sustainable solutions to these problems. However, you want to make sure that the Environmental Protection Agency imposes its new regulation fairly. You are concerned that the negatives of plastics have been exaggerated and the societal benefits downplayed, and you do not want any regulation that emphasizes only the negatives. You hope to ensure that the regulators come away with a view that is sufficiently balanced and that they do not enact any regulations that will stifle innovation and hamper future technological advancement.

Your Mission

Your goal at this hearing is to convince the Regulators to include the Invention Group's recommendations in their final regulation. To make this argument effectively, you must

- Complete the assigned readings listed at the bottom of this page;
- Work closely with the other members of your group to develop clear answers to the Regulators' questions;
- Make use of as much specific information as possible to develop strong arguments that the many societal benefits of plastics outweigh the problems and that too much regulation may stifle innovation;
- Read as much as you can about your position and the positions of the other groups; and
- Complete written reflections on your character, interest group, and readings as assigned.

Your Victory Objectives

- **You will receive 10 points** if the Regulators select your group's proposal as the final regulation.
- The Regulators will rank the interest groups by how well their goals are represented in the final regulation. **You will receive between 1 and 5 points** based on how the Invention Group is ranked and how well the regulation reflects your goals.

Sources

Invention Group Sources

- Case Study: The Benefits of Plastic Innovation
- "Interview with Bob Kenworthy," video, vimeo.com/channels/465871

Your Individual Sources

- "Plastic Electronics," video, www.youtube.com/watch?feature=player_embedded&v=Pr9s2of80xU
- Select **one article** from the bibliography on *The Case of Plastics* website recommended for the Invention Group. Read the article and write two paragraphs summarizing the article and how it will be useful to you in the upcoming debate.