



HIGH SCHOOL · GRADES 9–12 · AGES 14–18

Case Study Collection

From Science to Systems Thinking

HOW TO USE THIS COLLECTION

- Assign one case study per class period, or as a small-group reading.
- Each case ends with analysis questions suited to a written response or class discussion.
- Pairs with Unit 3 of the STEM Curriculum Module.

CASE STUDIES IN THIS COLLECTION

- 1 Case 1: Transitioning a Foodservice Supply Chain to Compostables
- 2 Case 2: Hospitality Industry Sustainability Commitments
- 3 Case 3: Institutional Procurement & Cost-Benefit Analysis

Case 1

Transitioning a Foodservice Supply Chain to Compostables

A regional foodservice distributor evaluates replacing single-use plastic cups, lids, and utensils with PHA-based compostable alternatives across its supply chain. Students examine sourcing costs, vendor negotiations, and the operational changes required to introduce commercial composting streams at partner restaurants.

DATA POINTS TO EXPLORE

- Material cost delta between conventional plastic and PHA alternatives
- Shift in customer perception and brand differentiation
- Logistics of introducing compost collection at point of sale

ANALYSIS QUESTIONS

1. *What tradeoffs does the distributor weigh between short-term cost and long-term brand value?*
2. *How might supplier relationships need to change to support this transition?*

Case 2

Hospitality Industry Sustainability Commitments

A hotel group commits to eliminating single-use plastic amenities across its properties. Students trace the decision from initial sustainability pledge through vendor selection, staff training, and guest communication — evaluating how public commitments shape internal operations.

DATA POINTS TO EXPLORE

- Guest-facing communication strategies for sustainability initiatives
- Staff training requirements for new compostable product lines
- Measuring impact: waste diversion tracking methods

ANALYSIS QUESTIONS

1. *How does a public sustainability commitment create internal accountability?*
2. *What metrics would you use to prove the commitment is working?*

Case 3

Institutional Procurement & Cost-Benefit Analysis

A school district and a hospital system both evaluate switching to compostable food packaging. Students compare how each institution weighs cost, regulatory pressure, health considerations, and community expectations differently in reaching a purchasing decision.

DATA POINTS TO EXPLORE

- Total cost of ownership vs. sticker price comparisons
- Regulatory and accreditation pressures unique to each institution type
- Community and stakeholder expectations as a decision factor

ANALYSIS QUESTIONS

1. *Why might two institutions reach different conclusions from similar data?*
2. *What role does non-financial value play in procurement decisions?*