

Case 13: Can the crew cut waste before it reaches the bin?

Overview

Students read a story in which Dec’s box of replacement parts arrives half full of packaging. The crew’s “recyclable” cups turn out to be on the city’s not-accepted list. They place items from the supply list on EPA’s waste hierarchy and check them against the city’s accepted-materials list. They then fill in an event materials sheet and propose one change with a way to measure it.

Before this case

Students should already be able to:

- collect and record counts accurately
- define what a comparison includes and leaves out
- write a report with a data table

Objectives

Students will be able to:

- investigate one school event’s waste within a stated boundary
- apply the EPA hierarchy as a general framework
- check local acceptance for each item
- recommend changes to student government and state the limits honestly

Materials

- This chapter, one copy per student

Materials, continued

- Evidence A, B and C, as a model
- Your city’s recycling guide
- An investigation plan template and a boundary checklist

The task in this edition

Task: Investigate a real school event’s waste with a defined boundary and recommend changes to student government.

Students make: Report, 500—600 words with a data table

Pacing

Opener (page 248): 5 min. Short on time: 5 min.

Key terms (pages 249 and 250): 5 min. Short on time: skip.

Look at the evidence (page 254): 8 min. Short on time: 8 min.

Look at the evidence (page 255): 4 min. Short on time: 4 min.

Key idea (pages 256 and 257): 10 min. Short on time: 8 min. Skip the code of ethics.

Sort the evidence (pages 258 and 259): 8 min. Short on time: skip. The boundary checklist does the same work.

Practice (page 260): 5 min. Short on time: skip.

Pacing, continued

Your task (pages 261 and 262): 25 min. Short on time: 25 min.

Your draft (page 263): 30 min. Short on time: 30 min.

Check your work (pages 264 and 265): 8 min. Short on time: 5 min. Students answer the Check your work questions only.

Questions to discuss (pages 266 and 267): 8 min. Short on time: 5 min. Use question 3 as an exit ticket.

Talk about this case at home (page 268): at home.

Periods: full chapter 116 minutes; one period 90 minutes.

Standards

RI.11-12.1 Back up an analysis with the strongest evidence from the text, including where the text leaves things uncertain.

W.11-12.1 Write arguments that analyze substantial topics or texts, using valid reasoning and enough relevant evidence.

W.11-12.5 Strengthen writing by planning, revising, editing or rewriting, focusing on what matters most for the purpose and audience.

SL.11-12.1.c Keep a discussion moving with questions that probe reasoning and evidence, and make sure the full range of views is heard.

Case 13 plan, continued

Standards, continued

SL.11-12.1.d Respond to different views, pull together what each side says, resolve conflicts where possible and name what still needs research.

D4.6.9-12 Use one or more disciplines to understand the causes of local, regional and global problems and the challenges of addressing them. In this case: Students use disciplinary lenses to understand a local waste problem.

D4.7.9-12 Assess options for individual and group action on local, regional and global problems through reflection and causal reasoning. In this case: Students assess options for individual and collective action on waste.

Codes of ethics

- **FTC Green Guides (16 CFR Part 260):** § 260.12 Recyclable claims
- **AIGA Standards of Professional Practice:** The designer's responsibility to society and the environment
- **IABC Code of Ethics for Professional Communicators:** "I do not guarantee results"

Heat map

- **Opener (page 248):** Low
- **Key terms (pages 249 and 250):** Low
- **Look at the evidence (page 254):** Low

Heat map, continued

- **Look at the evidence (page 255):** Low
- **Key idea (pages 256 and 257):** Medium
- **Sort the evidence (pages 258 and 259):** Low
- **Practice (page 260):** Medium
- **Your task (pages 261 and 262):** Low
- **Check your work (pages 264 and 265):** Low

Try it at your school

Change one thing before the next event.

- Pick one repeated item at a school event: cups, flyers, plates
- Count how many were used last time
- Check your city's recycling list and propose one reduction or reuse option
- Count again after the event and share results with the organizers

Who to ask: Student council, custodial or facilities staff, a science teacher, your city's sanitation or recycling office

Safety: Don't sort through trash with your hands; unsafe items can be hidden. Make sure changes don't leave out people who need disposable items.

Sources

- NPR, "Starbucks To Eliminate Plastic Straws In Its Stores By 2020," July 9, 2018

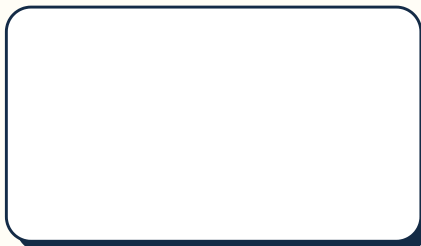
Sources, continued

- NPR, "Why People With Disabilities Want Bans On Plastic Straws To Be More Flexible," July 11, 2018
- U.S. Environmental Protection Agency (EPA), "Sustainable Materials Management: Non-Hazardous Materials and Waste Management Hierarchy," No date listed

Case 13: Can the crew cut waste before it reaches the bin?

The last Common Room screening used about 120 cups the city won't recycle, and a box of parts arrived half full of packaging.

On your own Read What happened. Underline the number of cups and what the city list says about them. About 5 minutes.



Anika, Dec and Sami react to a round of their tabletop game.

Your role: You're the one who counts the cups before and after the change. **New skill:** Count a starting point before you claim a change works.

What happened

It is Tuesday in the theater shop. Dec opens a box of replacement parts. Three separate orders of small LED connectors and switches, placed over one week, arrived together. About half of the box is plastic air pillows and foam.

The supply list from last Friday's screening at the Common Room shows a second problem. The crew used about 120 single-use cups. The cups are plastic-lined paper and labeled "recyclable." But the city's recycling list does not take plastic-lined paper cups.

Your question: What could the crew change before the next screening, and how would they know it worked?

Dec wants to fix how they order parts before anyone redoes the recycling sign. Anika tracks the parts and the budget. She agrees with Dec, but she wants numbers before anyone says a change saves money. Some people need a disposable cup or a straw, so any plan has to work for them too.

Pacing

Full chapter: 5 min.

 Short on time: 5 min.

Say this

"The cups say "recyclable." Where do you think they went after the screening?" — Hear guesses. Do not reveal the city list yet.

Watch for

Misconception: Students think the label decides where the cups go. **Listen for:** "They said recyclable, so they got recycled." **Then:** Ask who decides what a city recycles. Promise to check the city list in the evidence.

Support

- Read What happened aloud. Show a paper cup if you have one.

Heat check

 **Low.**

Key terms

On your own Read each key term and its example. Then write your first guess in the box. About 5 minutes.

Source reduction Source reduction is preventing waste before it is created, for example by buying less packaging.

En español: reducción en la fuente

In this case: Dec wants to combine the parts orders so less packaging arrives in the first place.

Reuse Reuse is using an item again instead of throwing it away after one use.

En español: reutilización

In this case: Borrowing washable cups from the bookshop is reuse. Washing uses water and someone's time.

Local acceptance Local acceptance is the list of materials that your own city's recycling or compost program actually takes.

En español: materiales aceptados en tu ciudad

In this case: The cups say "recyclable," but the crew's city does not accept plastic-lined paper cups.

Who is involved

Dec

Opened the parts order

"Three orders of tiny connectors in one week. One big box, and half of it's packaging."

Anika

Tracks the parts and the budget

"I'm in. But if anyone says it saves money, I want the numbers. Right now we have one box and a guess."

Pacing

Full chapter: 5 min.

 Short on time: skip this page.

Say this

"Source reduction happens before the waste exists. Which item in the story could the crew stop buying?" — Listen for the packaging and the cups.

Watch for

Misconception: Students treat reuse and recycling as the same. **Listen for:** "Reusing is recycling." **Then:** Reuse means using the same item again, like a washable cup. Recycling depends on what the city list accepts.

Support

- Use picture cards: a washable cup, a paper cup and a recycling bin.
- **Cognates:** reduction (reducción), recycle (reciclar), plastic (plástico), material (material), accessible (accesible), alternative (alternativa), container (contenedor), quantity (cantidad).

Heat check

 Low.

Answer key

Any first guess is fine. Students return to it on the My take page.

Before you look at the evidence, what is the best way for the crew to cut waste?

➤ My first guess is to switch to compostable cups, because they sound better than plastic-lined ones.

This image shows a single sheet of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

This page continues page 249. The notes for both pages are on the sheet for page 249.

Reading passage

A claim as small as the evidence

On your own Read the passage. At each Stop and think box, pause and answer the question in your head or with a partner. About 5 minutes.

Words to know

- **Source reduction:** Source reduction is preventing waste before it is created, for example by buying less packaging.
- **Reuse:** Reuse is using an item again instead of throwing it away after one use.
- **Local acceptance:** Local acceptance is the list of materials that your own city's recycling or compost program actually takes.
- **Proposal:** A proposal is a change that someone suggests and that has not been approved yet.
- **Trade-off:** A trade-off is a choice where getting one benefit means accepting a cost or giving something up.

The story: Following waste upstream

Dec is a high school senior who drums, builds sets and is considering an electrical apprenticeship. He tends to follow a problem into the small places where it starts. On Tuesday, that place is the theater shop. Three orders of LED connectors and switches, placed separately over one week, have arrived together in one box. About half the box is plastic air pillows and foam.

Anika, a junior who tracks the crew's parts and budget, brings the second data point. The supply list from last Friday's screening at the Common Room shows about 120 single-use cups, plastic-lined paper and labeled "recyclable." The same list includes 80 paper plates, 150 printed flyers and 40 paper straws given out on request. The crew's first instinct might be a better recycling sign. Dec wants to start earlier, at the order form. Order parts together rather than each time one breaks, and ask the supplier about packaging.

Anika agrees and sets a standard. Nobody gets to say a change saves money without numbers, and right now the evidence is one box and a guess. She also sets a boundary. Some people need a disposable cup or a straw, so a plan that works only for most people does not work.

Your role is to count the cups before and after the change.

Stop and think. Why is a claim about one counted screening more trustworthy than a claim about "saving money"?

Pacing

Reading: about 5 min (717 words). Short on time: read it aloud together, pausing at each Stop and think.

Stop and think

1. **After "The story: Following waste upstream":** Why is a claim about one counted screening more trustworthy than a claim about "saving money"?
2. **After "Hierarchy, labels and baselines":** How does the Green Guides standard apply to the crew's cups?
3. **After "Evidence from agencies, reporters and schools":** How does "add more bins" define the problem differently from "order less packaging"?

Hierarchy, labels and baselines

Source reduction is preventing waste before it is created, for example by buying less packaging. **Reuse** is using an item again instead of throwing it away after one use. Both sit upstream of the bin. Dec's combined orders are source reduction, and borrowing the bookshop's washable cups is reuse.

The cup label raises a verification problem that Case 9 prepared you for. There, you learned to check the official source for your own area rather than a general claim. Here, the official source is the city's recycling list. It accepts metal cans, glass bottles and jars, rigid plastic bottles and containers and flattened cardboard. It excludes plastic-lined paper cups, plastic bags and film, foam and items labeled compostable. **Local acceptance** is the list of materials that your own city's recycling or compost program actually takes. By that standard, the crew's "recyclable" cups are trash, and a switch to compostable cups would be too.

The new skill is counting a starting point before claiming a change works. The baseline is about 120 cups from one screening. The intervention is washable cups at the next one. The measurement includes cups used and left over, plus the costs reuse adds, water and someone's washing time. Case 4 supplies the frame for presenting the result. The plan is a **proposal**, a change that someone suggests and that has not been approved yet, and every option is a **trade-off**, a choice where getting one benefit means accepting a cost or giving something up. Anika's rule keeps the eventual claim honest. Whatever the crew reports should be as small as one counted screening.

 **Stop and think.** How does the Green Guides standard apply to the crew's cups?

Evidence from agencies, reporters and schools

The EPA's materials management hierarchy ranks source reduction and reuse first, followed by recycling and composting, energy recovery, and treatment and disposal. It also notes that no single approach suits every material or situation (EPA, updated December 19, 2025). For food, the EPA's Wasted Food Scale likewise ranks prevention above composting or recycling (EPA, updated September 16, 2026). An NPR investigation reported that less than 10 percent of plastic has ever been recycled (NPR, September 11, 2020).

Labels are regulated for a reason. The FTC's Green Guides say a product or package "should not be marketed as recyclable unless it can be collected, separated, or otherwise recovered from the waste stream through an established recycling program" (16 CFR Part 260, 2012).

Access belongs in the same analysis. When Starbucks announced its straw phase-out in 2018, it said a sippable lid could mean a billion fewer straws a year (NPR, July 9, 2018). Two days later, NPR reported that some people with disabilities need flexible plastic straws and that advocates saw little awareness of the exemption in Seattle's ban (NPR, July 11, 2018). Schools offer models that measure first.

This page continues page 251. The notes for both pages are on the sheet for page 251.

Evidence from agencies, reporters and schools, continued

New Jersey schools have used waste audits, share tables and reusable trays to cut waste before it reaches the bin (New Jersey School Boards Association, October 15, 2025). Each of those programs starts the way Anika does, by counting what is thrown away now.

? **Stop and think.** How does “add more bins” define the problem differently from “order less packaging”?

Sources

Real source | U.S. Environmental Protection Agency (EPA) | December 19, 2025

Sustainable Materials Management: Non-Hazardous Materials and Waste Management Hierarchy

Real source | U.S. Environmental Protection Agency | September 16, 2026

Wasted Food Scale

Real source | NPR | September 11, 2020

How Big Oil Misled The Public Into Believing Plastic Would Be Recycled

Real source | Federal Trade Commission (FTC) | 2012

FTC Green Guides (16 CFR Part 260)

Real source | NPR | July 9, 2018

Starbucks To Eliminate Plastic Straws In Its Stores By 2020

Real source | NPR | July 11, 2018

Why People With Disabilities Want Bans On Plastic Straws To Be More Flexible

Real source | New Jersey School Boards Association | October 15, 2025

How New Jersey Schools Are Tackling Food Waste—One Tray at a Time

Notes

This page continues page 251. The notes for both pages are on the sheet for page 251.

Look at the evidence

On your own Read each document. For each one, fill in both boxes. About 8 minutes.

Evidence A | Supply list

Screening supply list, last Friday

Single-use cups (plastic-lined paper, labeled “recyclable”): about 120. Paper plates: 80. Printed flyers: 150. Paper straws, on request: 40. Folding chairs: borrowed from the bookshop.

Look closely: Which item did the crew use the most? Could it be reused?

What it shows

➤ A baseline: about 120 cups, 80 plates, 150 flyers, 40 straws; chairs were borrowed.

What it leaves out

➤ Where each item ended up, and what each item cost.

Evidence B | Delivery

The parts order

Delivered Tuesday to the theater shop. Three separate orders of small LED connectors and switches, placed over one week, arrived together. They came in one full box, about half of it plastic air pillows and foam around tiny parts.

Look closely: How many orders came in this one box? Why does that matter?

What it shows

➤ Waste made upstream: three orders in a week, one box, about half air pillows and foam.

What it leaves out

➤ Whether the supplier would ship less packaging for a combined order.

Case 13 | Look at the evidence | Grades 11–12 educator edition

🕒 Pacing

Full chapter: 8 min.

✂ Short on time: 8 min.

💬 Say this

“Put the supply list next to the city list. Which item appears on both?” — Wait for the plastic-lined paper cups.

👁 Watch for

Misconception: Students say the cup label is a lie. **Listen for:** “The label is fake.” **Then:** Ask what the city list tells us: this city does not accept them. Other places are not in the evidence.

📄 Support

- Give each document on its own half-page.
- Read the city list aloud, pausing after “Not accepted.”
- **Cognates:** reduction (reducción), recycle (reciclar), plastic (plástico), material (material), accessible (accesible), alternative (alternativa), container (contenedor), quantity (cantidad).

➡ Stretch

- Ask which document shows waste made before the event and which shows what happens after it.

🔥 Heat check

■□□ Low.

Look at the evidence, continued

Evidence C | Sanitation guide

City recycling list

Accepted in recycling: metal cans, glass bottles and jars, rigid plastic bottles and containers, flattened cardboard. Not accepted: plastic-lined paper cups, plastic bags and film, foam, items labeled compostable.

Look closely: Find the plastic-lined paper cups. Which list are they on?

What it shows

Local acceptance beats the label: the “recyclable” cups are on the not-accepted list.

What it leaves out

Where rejected items go, and whether a neighboring city accepts them.

What is still missing from the evidence?

The evidence leaves out how many cups reuse would replace and what washing costs in water and volunteer time. It also leaves out where the city’s trash goes after pickup.

Notes

Case 13 | Look at the evidence | Grades 11–12 educator edition

⌚ Pacing

Full chapter: 4 min.

✂ Short on time: 4 min.

💬 Say this

“Put the supply list next to the city list. Which item appears on both?” — Wait for the plastic-lined paper cups.

👁 Watch for

Misconception: Students say the cup label is a lie. **Listen for:** “The label is fake.” **Then:** Ask what the city list tells us: this city does not accept them. Other places are not in the evidence.

📖 Support

- Give each document on its own half-page.
- Read the city list aloud, pausing after “Not accepted.”
- **Cognates:** reduction (reducción), recycle (reciclar), plastic (plástico), material (material), accessible (accesible), alternative (alternativa), container (contenedor), quantity (cantidad).

➡ Stretch

- Ask which document shows waste made before the event and which shows what happens after it.

🔥 Heat check

■□□ Low.

Key idea: source reduction

On your own Read the key idea and the Professional standards card. Then answer the question in the box. About 10 minutes.

Source reduction is preventing waste before it is created, for example by buying less packaging. The Environmental Protection Agency (EPA) ranks ways to handle waste. Source reduction and reuse come first. Recycling and composting come next, then energy recovery, then treatment and disposal. The EPA also notes that no single approach fits every item or situation.

Reuse is using an item again instead of throwing it away after one use. Borrowing washable cups from the bookshop is one example. Reuse has costs too. Washing takes water and someone's time, so a fair comparison counts those costs along with the cups.

A “recyclable” label does not tell you where an item will go. **Local acceptance** is the list of materials that your own city's recycling or compost program actually takes. The crew's cups say “recyclable,” but their city's list does not take plastic-lined paper cups. The list does not take items labeled compostable either. So the crew has to check the list before choosing any new cup.

Professional standards

Real source | Law or regulation | Federal Trade Commission (FTC)

FTC Green Guides (16 CFR Part 260): § 260.12 Recyclable claims

“A product or package should not be marketed as recyclable unless it can be collected, separated, or otherwise recovered from the waste stream through an established recycling program”

In plain words: FTC guidance says a company should call a product recyclable only when recycling programs can collect and process it.

Question: The crew's city rejects plastic-lined paper cups. What else must you know before saying the “recyclable” label breaks the guide?

Your answer

I would need to know ____, because the guide ____.

➤ I would need to know whether established programs collect these cups and who put the label on them, because the guide is written for marketers.

Case 13 | Key idea | Grades 11–12 educator edition

⌚ Pacing

Full chapter: 10 min.

✂ Short on time: 8 min. Skip the code of ethics.

💬 Say this

“The EPA ranks source reduction and reuse first. Where on that list is Dec trying to act?” — Wait for “source reduction.”

“This card is FTC guidance, not an ethics code. Who does it apply to?” — Marketers who call a product recyclable.

👁 Watch for

Misconception: Students treat the EPA ranking as a rule for every item. **Listen for:** “Reuse is always better.” **Then:** Reread the key idea: no single approach fits every item. Washing has costs too.

📎 Support

- Draw the ranking as a staircase, with source reduction and reuse on the top step.

🔗 Stretch

- Use the AIGA card: what could the next parts order change before anything reaches the shop?

🔥 Heat check

■ ■ □ **Medium.** The straw story raises disability access, and students may describe their own needs or others'.

Cool-down: Keep the talk to the NPR report. No one needs to say what they or anyone they know needs.

Real source | NPR | July 9, 2018

A throwback to a company cutting waste at the counter, before anything reached a bin.

Real source | NPR | September 11, 2020

Investigation finding less than 10% of plastic has ever been recycled, which is why reduction comes first.

[illegible]

Sort the evidence

On your own Follow each choice to its consequences in the diagram. Then name one view that is missing. About 8 minutes.

Follow each choice to its consequences, including new costs. Which consequence would you measure first, and what would count as success?

Keep buying “recyclable” single-use cups

About 120 cups go to the trash because the city does not accept them

Who is affected

→ The city collection
service and the
neighborhoods near
where waste ends up

Borrow washable cups and run a wash station

Fewer cups in the trash, if people use the washable ones

Who is affected

Check: Count cups and bags after the next event and compare with last time

New costs: water, washing time and volunteers

Who is affected

Check: Count cups and bags after the next event and compare with last time

Combine parts orders into one shipment

Less packaging arrives before anything reaches a bin

Who is affected

Notes

Pacing

Full chapter: 8 min.

✂ Short on time: skip this page. Skip this page. The boundary checklist does the same work.

Say this

“Follow the washable-cup choice. What new costs appear?” — Model the first chain together.

Watch for

Misconception: Students list only benefits for the washable cups. **Listen for:** “Washable cups are just better.” **Then:** Point to the new-costs box: water, washing time and volunteers.

Support

- Let students draw arrows before writing labels.

Heat check

■□□ Low.

Whose view is missing from these documents? What would you ask them?

The view that is missing is _____. I would ask _____.

☛ Guests who need disposable cups or straws are missing. I would ask them privately what works, because a plan that forgets them can fail.

Notes

[illegible]

This page continues page 258. The notes for both pages are on the sheet for page 258.

Practice: choose a response

On your own Choose the plan the crew should try and explain why. Then fix the two marked lines. About 5 minutes.

The last screening used about 120 single-use cups, and the city's recycling list does not take that type. Which plan should the crew try for the next screening?

☒ **A** Compare a washable-cup option, washing time, cost, access and the city list, then test one change.

☐ **B** Buy a different cup labeled “recyclable” and put up a clearer recycling sign.

☐ **C** Stop offering disposable cups and straws, and ask everyone to bring their own.

Why I chose it

➤ **A. B trusts a label the city list already contradicts, and C turns one goal into a rule that ignores access. A weighs those limits before testing one change.**

Improve a draft

A student's first draft

We should make the screening zero waste. Everyone should bring their own cup and we'll **1** ban all plastic. We can also put up posters that say “save the planet” so people remember to recycle. Recycling is the best thing you can do for the environment. This will be easy and **2** it will save money too. Last screening there were cups everywhere and the bins were overflowing by the end of the night. People will love it once they get used to it. Let's start next week!

Rewrite each marked phrase so it says only what the evidence supports.

Rewrite phrase 1

➤ **We will test washable cups and keep single-use cups and flexible straws on request.**

Rewrite phrase 2

➤ **We will compare cup counts and washing costs after the event before we claim any savings.**

⌚ Pacing

Full chapter: 5 min.

✂ Short on time: skip this page.

💬 Say this

“You are planning the next screening. Which plan would you try first?” — Vote before any discussion.

👁 Watch for

Misconception: Students choose C because a ban cuts the most waste. **Listen for:** “Just ban them all.” **Then:** Ask who at the screening might need a disposable cup or a straw. Point to the straw story.

📖 Support

- Read the three options aloud before students choose.

🔥 Heat check

■ ■ □ **Medium.** Talk about bans can turn to who “really” needs a straw.

Cool-down: Say: “Nobody has to prove a need.” Keep the focus on how the plan offers items on request.

➤ Answer key

A revised version: For the next screening, we propose one change: cups. Last time we used about 120 single-use cups, and our city's recycling list doesn't accept that type. We'll borrow 60 washable cups from the bookshop, keep 40 compostable cups for anyone who needs one, and ask Rafa and Jordy to run a quick wash station. Flexible straws and single-use cups stay available on request. We'll count cups used and leftover supplies after the event and compare with last time before deciding whether to keep the change. We're not claiming it saves money yet.

Grades 11–12

Your task

On your own Read the steps. Fill in the planner boxes before you start your draft. About 25 minutes.

Investigate a real school event's waste with a defined boundary and recommend changes to student government.

Use: EPA hierarchy, your city's recycling guide and your own data.

You'll make: Report, 500–600 words with a data table

Time: 90 minutes

- 1 Choose one school event. List the items it uses and how you will count them.
- 2 Write your boundary: what your comparison counts and what it leaves out.
- 3 Count the items safely. Do not sort through trash with your hands.
- 4 Check each item against your city's recycling guide.
- 5 Draft your findings and limits on the Your draft page.
- 6 Write the full report of 500 to 600 words, with a data table, for student government.
- 7 State clearly what your comparison does not measure.



Prefer typing? Scan to open the online workspace.

The event and its items

🔍 Last Friday's screening: cups, plates, flyers and straws.

Case 13 | Your task | Grades 11–12 educator edition

🕒 Pacing

Full chapter: 25 min.

✂ Short on time: 25 min.

💬 Say this

“Before you count, write down what you will not count.” — Sample answers use the case's screening. Students use a real school event.

👁 Watch for

Misconception: Students plan to dig through trash to count. **Listen for:** “We'll go through the bins after.” **Then:** Count supplies before and leftovers after instead. Nobody sorts trash with their hands.

📄 Support

- Investigation plan template
- Boundary checklist
- Boundary checklist: items, washing, transport, disposal. Mark each counted or not counted.

🔗 Stretch

- State clearly what your comparison does not measure.

🔥 Heat check

■□□ Low.

📋 Standards

Common Core: RI.11–12.1; W.11–12.1; W.11–12.5; SL.11–12.1.c; SL.11–12.1.d.

C3 Framework: D4.6.9–12; D4.7.9–12.

The Case plan sheet gives each code in plain words.

What my comparison counts

Items used and left over, and water and volunteer time for washing.

➤ Transport, the energy to make each item, and where the city's trash goes.

☛ Cups, about 120, no. Plates, 80, not listed. Flyers, 150, not listed.
Straws, 40, not listed.

This image shows a single sheet of white paper with horizontal blue lines, resembling notebook paper. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

OT Answer key

- Clear boundary
- Accurate data
- Accurate use of EPA framework
- Limits stated honestly

Your draft

On your own Write your draft in the boxes. Use your planner from the page before. About 30 minutes.

Findings, about 100 words

At last Friday's screening, the crew used about 120 single-use cups, 80 paper plates, 150 printed flyers and 40 paper straws. The chairs were borrowed from the bookshop, so they created no waste. The cups are the clearest problem. They are labeled "recyclable," but the city's list does not accept plastic-lined paper cups. The plates, flyers and straws do not appear on either side of the list, so where they go is unknown. Following the EPA hierarchy, the best options for the cups are source reduction and reuse, such as borrowing washable cups.

Limits and recommendation, about 50 words

This comparison counts items used and the water and time for washing. It does not measure transport or where the city's trash goes. We recommend that student government test washable cups at one event, keep disposable cups and straws on request and publish the count afterward.

Pacing

Full chapter: 30 min.

 Short on time: 30 min.

Say this

"Every claim in your findings should point to a number in your table." — Partners check each sentence against the table.

Watch for

Misconception: Limits are left out or hidden at the end.

Listen for: "There are no limits." **Then:** Ask what the boundary checklist marked "not counted." That list is the limits paragraph.

Support

- The overprinted sample holds findings and limits. Full reports run 500 to 600 words with a data table.

Answer key

What to notice in the sample:

- Reports what the data cannot show instead of guessing.
- Applies the EPA hierarchy as a general framework.
- States the limits of the boundary honestly.

Check your work

On your own Answer the Check your work questions and mark your level in each rubric row. Then write one change you made. About 8 minutes.

Does your report state a clear boundary?	☒ Yes	☐ No
Is your data accurate and labeled with units?	☒ Yes	☐ No
Do you use the EPA hierarchy as a general framework, not a rule?	☒ Yes	☐ No
Do you state honestly what your comparison does not measure?	☒ Yes	☐ No

How your work is scored

Mark one box in each row.

Skill	Beginning	Developing	Proficient	Advanced
Evidence	☐ No data.	☐ General claims about recycling.	☐ Uses quantities and local rules.	☐ Uses quantities, local rules and a before/after plan.
Reasoning	☐ Treats one fix as solving everything.	☐ Ignores trade-offs.	☐ Applies the hierarchy and names a trade-off.	☐ Weighs trade-offs including access and cost with a measurement boundary.
Audience & purpose	☐ Commands people.	☐ Relies on slogans.	☐ Specific change organizers can do.	☐ Specific, inclusive change with roles assigned.
Revision	☐ No change.	☐ Wording only.	☐ Narrows to a measurable change.	☐ Explains how narrowing makes success testable.

Pacing

Full chapter: 8 min.

 Short on time: 5 min. Students answer the Check your work questions only.

Say this

“Find the sentence that says what you will count. Is there a number in it?” — If not, that is the revision.

Watch for

Misconception: Proposals still promise savings. **Listen for:** “It will definitely save money.” **Then:** Ask what the crew has counted so far. Replace the promise with the count.

Heat check

   Low.

Answer key

How to assess: The report is scored for a clear boundary, accurate data, accurate use of the EPA framework and honestly stated limits.

Proficient looks like:

- **Evidence:** Uses quantities and local rules.
- **Reasoning:** Applies the hierarchy and names a trade-off.
- **Audience & purpose:** Specific change organizers can do.
- **Revision:** Narrows to a measurable change.

This image shows a single sheet of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

This page continues page 264. The notes for both pages are on the sheet for page 264.

Questions to discuss

On your own Write a short answer to each question. Then complete each sentence frame below the questions. About 8 minutes.

- 1 Could a change that reduces waste create an access problem for someone, and how would you find out?

➤ Yes. The straw stories show that a waste rule can leave out people with disabilities, and that an exemption helps only if people know about it. The crew could offer items on request and say so.

- 2 How does “add more bins” define the problem differently from “order less packaging”?

➤ More bins assume the waste is unavoidable and needs better sorting, but the city would still reject the cups. Less packaging places the problem at the order form, where source reduction happens.

- 3 What would the crew need to count before saying a change saves money?

➤ A before-and-after count of cups, the cost of borrowing and washing, and a stated boundary. Without a boundary, a savings claim can hide costs nobody counted.

My take

My claim: ____.

➤ The crew should try one reuse change, keep disposables on request and report only what it counted.

The best evidence is ____, because ____.

➤ The city list, because it shows a label cannot tell you what the local program accepts.

⌚ Pacing

Full chapter: 8 min.

✂ Short on time: 5 min. Use question 3 as an exit ticket.

💬 Say this

“Use a number or a document in every answer.” — Hear one answer per question, then ask for a different view.

🔗 Stretch

- Design the count sheet for the next screening: items, numbers before and after, and new costs.
- Going further: Compare two plans for the theater shop: order all the parts at once, or keep ordering when a part breaks. What problem does each plan solve? What new problem could each one create?
- Going further: List who would have to change a routine if the crew switched to washable cups. Write a two-sentence note to them. Say what the crew will count to show whether the change worked.
- Going further: Write two event plans for the next screening and a small test for each. After the tests, explain which plan you would improve and which you would drop.
- Going further: Pick one item that appears at many school events, such as cups, flyers or plates. Count how many were used last time, and check your city’s recycling list. Do not sort through trash with your hands.
- Find your city’s recycling rules and compare with a neighboring city
- Research where your area’s trash goes after pickup

My take, continued

Someone who disagrees might say ____.

Combining parts orders would cut more waste than changing cups.

The limit of the evidence is ____.

☛ We have one supply list and one box. We don't know washing costs or where the city's trash goes.

I would change my mind if ____.

☐ A count showed that washable cups added more cost than the cups they replaced.

Notes

[illegible]

This page continues page 266.

Heat check

Question 1: Medium. Students may describe their own disabilities or those of people they know.

Cool-down: Keep the talk to the case and the straw story. No one needs to say what they or anyone they know needs.

Talk about this case at home

Case 13: Can the crew cut waste before it reaches the bin?

In this case, a group of friends learns that the cups from their movie night can't be recycled in their city. Your student planned one change to cut waste before the next event and a way to count whether it worked.

Questions to talk about

- 1 How could someone find out what their city or town recycles?
- 2 What is one item people often throw away after a party or event?
- 3 Why might a rule to cut waste need an exception for some people?

Nobody needs to share personal stories or private information to talk about this case.



See the case online.

Case 13 | Talk about this case at home

| Grades 11–12 educator edition

Pacing

At home: this page takes no class time.

Say this

“Bring this page home or read it with someone you trust.” — Nobody needs to share personal needs or health information.