



Case 13

Before it reaches the bin

Could the crew make less waste before anyone reaches the recycling bin?

Cities spend public money collecting and managing waste, and the costs of landfills and pollution don't land evenly on every neighborhood. Students who look upstream at what gets bought and reused can make real changes at school events and ask better questions of their local government.

In the real world

NPR, 2018 Starbucks To Eliminate Plastic Straws In Its Stores By 2020

NPR, 2018 Why People With Disabilities Want Bans On Plastic Straws To Be More Flexible

Dec

Half this box is packaging around tiny parts. Before we redo the recycling sign, can we just order smarter?

You'll make

Proposal, 250—350 words

Time

About 50 minutes

Level

Grades 9—10



The case file

Look at what's actually here before deciding what it means.

Fictional case material

1

Screening supply list, last Friday's event

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.



Which item was used the most, and could it be reduced or reused?

Fictional case material

2

Parts order with packaging, delivered Tuesday to the theatre shop

Three separate orders of small LED connectors and switches, placed over one week and delivered together: one full box, about half of it plastic air pillows and foam around tiny parts.



What could the next order change before any packaging reaches the shop?

Fictional case material

3

§ City accepted-materials list, current sanitation guide (illustrative)

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.



Does this list accept the cups the crew bought? What does the word "recyclable" on the cup actually tell you?

Fictional case material

4

"Half this box is packaging around tiny parts. Before we redo the recycling sign, can we just order smarter?"

Dec, 17, theatre crew



Where on the waste hierarchy is Dec trying to act?

Fictional case material

5

"Before anyone says this saves money or energy, what are we counting? Washing takes water and time too."

Anika, 16, theatre tech crew



What would a fair comparison need to include, and what would it leave out?

Outside the story

The case is fictional. The questions in it are not. Here is where they show up in the real world.

Still missing

How many cups washable reuse would actually replace, what washing costs in water and volunteer time, whether the bookshop can lend cups every time, and where the city's trash and recycling actually go.

Real-world evidence



Real source

U.S. Environmental Protection Agency, Sustainable Materials Management: Non-Hazardous Materials and Waste Management Hierarchy

Summary, not a quotation: EPA ranks approaches from most to least environmentally preferred as source reduction and reuse, then recycling and composting, then energy recovery, then treatment and disposal, while noting that no single approach suits all materials and circumstances.

article

**Starbucks
To Eliminate
Plastic
Straws In Its
Stores By
2020**
[NPR, 2018-
07-09](#)

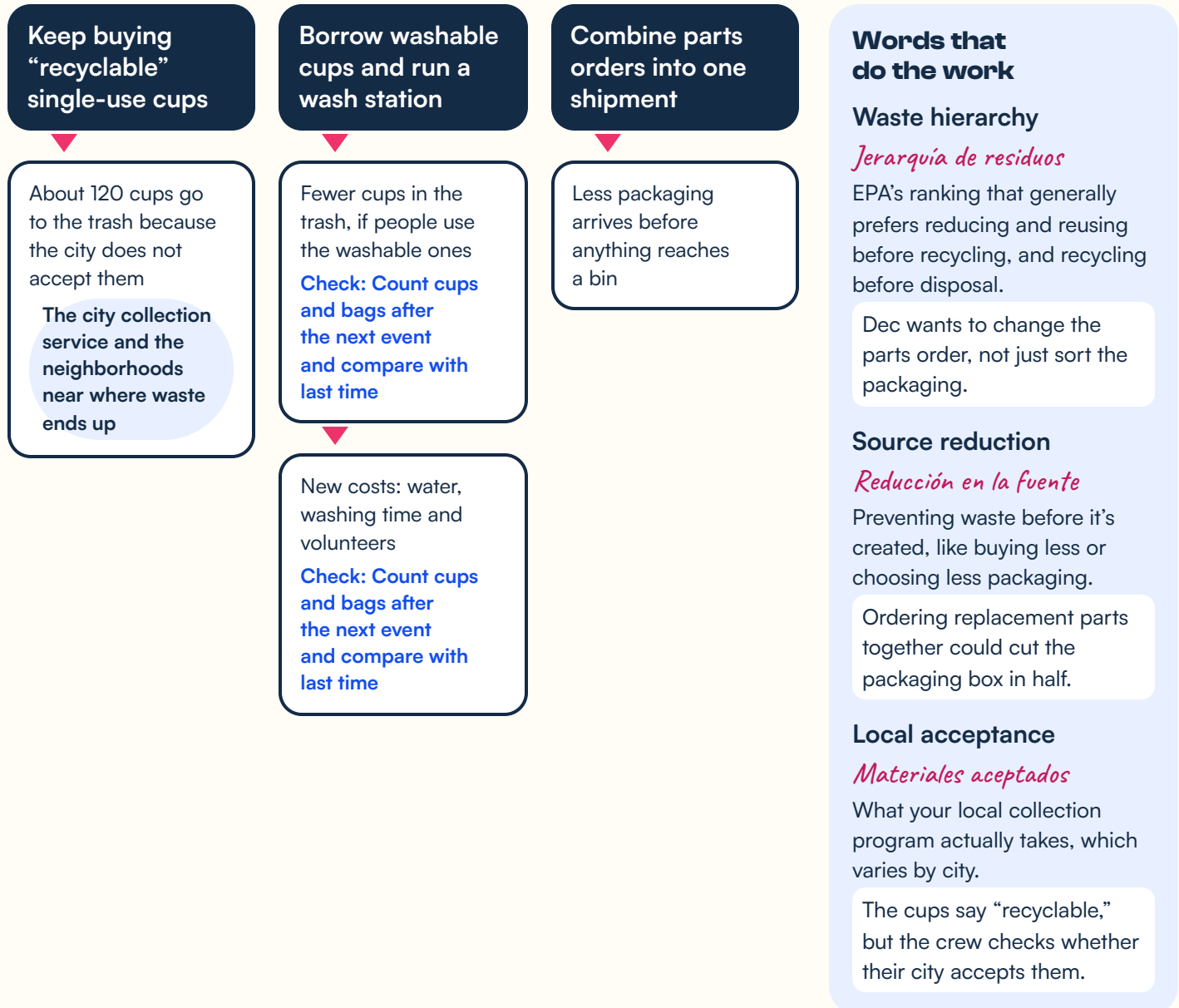
A throwback
to a company
cutting waste
at the
counter,
before
anything
reached
a bin.

Discuss before deciding

- Which item did you trust first, and why?
- What would you need to see before repeating the strongest claim?
- Who is missing from these documents?

If this, then what?

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



One student's draft

Write a proposal to the event organizers for one purchasing change, with a measurement plan.

Proposal: Replace most single-use cups at the next screening. Last Friday we used about 120 single-use cups², and the city's accepted-materials list doesn't take that kind of cup¹, so they all went to the trash even though they say "recyclable." We propose borrowing 60 washable cups from the bookshop and running a wash station. We'll keep compostable cups available for anyone who needs a disposable one³, like people who can't use a heavy cup. This change will definitely save money and cut our waste in half.⁴ To measure it, we'll count the cups used and thrown away after the event and compare with last time.

- 1** Strong: the writer checks the local rule instead of trusting the label.
- 2** Good use of a count as the baseline for the proposal.
- 3** Good: the access concern is built into the plan rather than added as an afterthought.
- 4** Revise: nothing has been measured yet, and washing has costs of its own. Say what you expect and let the count after the event decide.

Works well Uses evidence Gap to fix Think about the reader

One revision

Before

~~This change will definitely save money and cut our waste in half.~~

After

We expect fewer cups in the trash, but we won't claim savings until we compare the counts and the cost of running the wash station.

The revision matches the claim to the evidence and names a cost the original sentence ignored, which makes the proposal more credible to organizers.

Teacher commentary

The proposal picks one specific change, checks local acceptance, uses a baseline count and builds in an access option and a measurement plan. One sentence overclaims results that have not been measured and ignores the cost of washing. Qualifying it moves the proposal to Advanced on Reasoning.

Teach it in one period

Grades 9–10

Write a proposal to the event organizers for one purchasing change, with a measurement plan.

Sources

EPA hierarchy, illustrative supply list and local accepted-materials list.

Objective

Students propose one purchasing change backed by local rules and a measurement plan while addressing an access or cost concern.

Product

Proposal, 250–350 words

Assessed by

The proposal is scored with the case rubric, with a check that it verifies local acceptance and avoids unmeasured claims about savings.

45 minutes	You	Students	Check for
5 min The packaging box	Describe Dec's full box of packaging from replacement parts.	Guess: where did this waste start?	Guesses point upstream to ordering.
8 min The hierarchy	Show EPA's hierarchy; stress it's a general framework.	Place five items (packaging, cups, chairs, parts, flyers) on the hierarchy.	Students place reduction options above recycling.
10 min Check local rules	Hand out the city's illustrative accepted-materials list.	Check whether the "recyclable" cups are accepted.	Students find the label and the local list disagree.
10 min Materials sheet	Model the event materials sheet.	Fill in item, number used, reduction option, disposal rule, trade-off.	Each row has a trade-off, including access.
9 min One change	Anika's rule: pick one repeated item and measure.	Draft a proposal for one change and how to measure it.	Proposal has a before/after number.
3 min Exit	Ask: could reducing waste create an access problem?	Name one and how you'd find out.	Answer mentions asking people affected.

Before class

Prepare the case documents, one set per pair:

- ✓ Screening supply list, last Friday's event
- ✓ Parts order with packaging, delivered Tuesday to the theatre shop
- ✓ City accepted-materials list, current sanitation guide (illustrative)
- ✓ Dec, 17, theatre crew

Every document is fictional case material, printable from the online field guide.

Questions to keep asking



Nexo

The packaging box started at the order form, not at the bin.



Lupa

The cup says "recyclable." The city's accepted-materials list is what counts.



Onda

Some people need a straw or a disposable cup. Keep an option for them.

Support every student, then assess

Success looks like

- ✓ Specific change
- ✓ Uses the hierarchy accurately
- ✓ Checks local acceptance
- ✓ Measurement plan and access concern included

Supports at this level

- Proposal template
- Before/after data table

Access

- Use picture cards for the hierarchy
- Read the local recycling list aloud
- Spanish vocabulary: reducir, reutilizar, reciclar, desecho
- Offer a partially completed materials sheet
- Reduce to one item: cups

Stretch

- Find your city's recycling rules and compare with a neighboring city
- Research where your area's trash goes after pickup

Challenge: Address one access or cost concern.

Rubric	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.	Weights 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.

Standards this can show

RH.9-10.7 Common Core 9–10

W.9-10.7 Common Core 9–10

W.9-10.1 Common Core 9–10

W.11-12.7 Common Core 11–12

RI.11-12.7 Common Core 11–12

SL.11-12.4 Common Core 11–12

Grades 6—8

Make a materials sheet for the next Common Room screening and pick one change to try.

Use

The EPA hierarchy graphic and the illustrative supply list.

You'll make

Materials sheet plus 3—4 sentences

Show it your way
Write it

Write 3—4 sentences with the frame “We use __. We could __. A problem might be __.”

Say it

Explain to your group which item you would change, what you would do instead and one problem your change might cause.

Show it

Draw the waste hierarchy as a staircase and place each item from the supply list on the step where it is now and the step it could move to.

Done when

- ☐ Lists items and quantities
- ☐ Picks a reduction or reuse option
- ☐ Names a trade-off
- ☐ Includes a way to measure

Option 1 What would it do?

Option 2 And this one?

Need a boost?

- Picture hierarchy
- Sheet template with the first row filled in
- Frames: “We use __. We could __. A problem might be __.”
- Group work

My call One sentence.

Because the evidence shows Point to a numbered item in the case file.

Who pays for this choice**What would change my mind**

Prefer typing? Scan to do this in the online workspace.

Take it off the page Change one thing before the next event.

Grades 9—10

Write a proposal to the event organizers for one purchasing change, with a measurement plan.

Use

EPA hierarchy, illustrative supply list and local accepted-materials list.

You'll make

Proposal, 250—350 words

To A real role

How it gets there Email, comment, letter, DM

Opening Who you are and why you're writing

The ask One clear request

Your evidence Two specifics beat five adjectives

Close What happens next

Done when

- ☐ Specific change
- ☐ Uses the hierarchy accurately
- ☐ Checks local acceptance
- ☐ Measurement plan and access concern included

Need a boost?

- Proposal template
- Before/after data table



Prefer typing? Scan to do this in the online workspace.

Take it off the page Change one thing before the next event.

Honors

Argue whether cities should charge households by how much trash they throw out.

Use

Case materials plus one teacher-selected article on pay-as-you-throw programs.

You'll make

Argument, 600—700 words

Thesis A claim someone could reasonably disagree with

Done when

- ☐ Qualified thesis
- ☐ Evidence from the article
- ☐ Equity considered
- ☐ Addresses counterarguments

Reason 1: claim, evidence, commentary

Reason 2: claim, evidence, commentary

Need a boost?

- Claim/counterclaim chart
- Equity lens prompts

The strongest counterargument, and your answer

Why it matters beyond this case



Prefer typing? Scan to do this in the online workspace.

Pre-AP

Closely observe the supply list and packaging box, record quantities, and write an evidence-based paragraph proposing one reduction.

Use

The screening supply list, the parts order and the city accepted-materials list.

You'll make

Quantity log plus paragraph (150—200 words)

Item 1: what it shows, and what it doesn't

Done when

- ☐ Accurate quantities
- ☐ Proposal grounded in the data
- ☐ Checks local acceptance
- ☐ Measurement plan

Item 2: what it shows, and what it doesn't

Need a boost?

- Quantity log
- Question stems: "Where did this item enter the chain?"
- Paragraph frame

Item 3: what it shows, and what it doesn't

What I can actually claim



Prefer typing? Scan to do this in the online workspace.

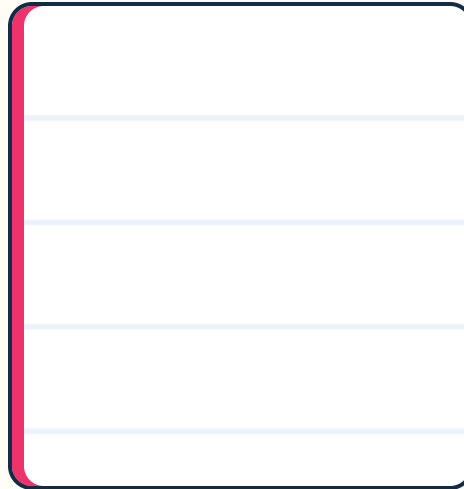
AP English Language

Analyze a “be sustainable” poster’s rhetoric and write a more effective, specific version.**Use**

A teacher-provided generic poster.

You’ll make

Analysis (about 350 words) plus revised poster text

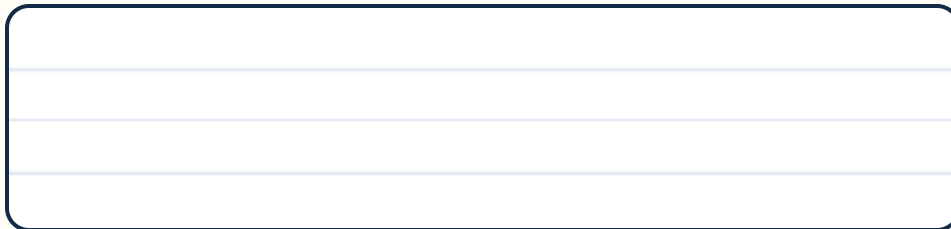
Version A What it says or shows**Version B** Same moment, told differently**Done when**

- ☐ Thesis on effectiveness
- ☐ Analyzes specific choices
- ☐ Revision is specific and accurate
- ☐ Commentary explains effect

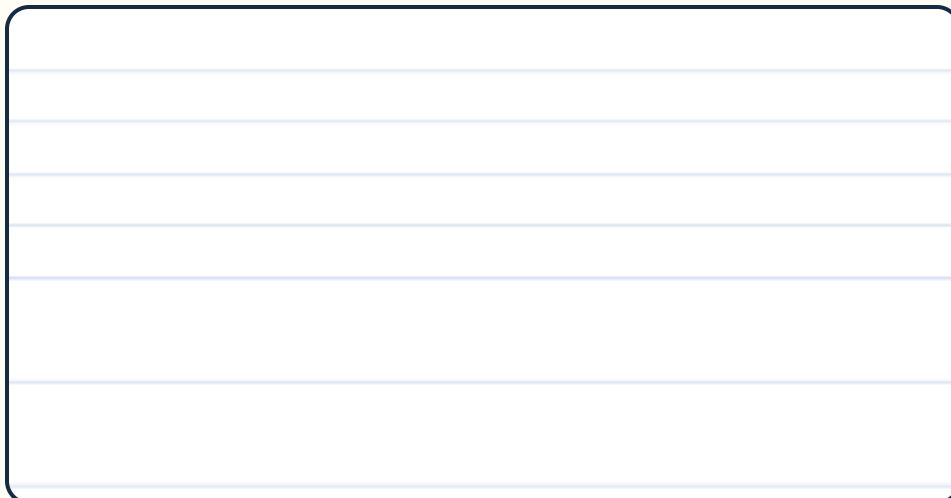
Need a boost?

- Analysis stems
- Specificity checklist

The difference that matters What does one version leave out, add or frame differently?



Who would react differently, and why



Prefer typing? Scan to do this in the online workspace.

Take it off the page Change one thing before the next event.

AP U.S. Government

Concept application: explain how waste policy shows federalism. EPA sets national frameworks, states regulate, and cities run collection. Apply this to the crew's cups.

Use

EPA hierarchy page and a short explainer on federal, state and local roles.

You'll make

Concept-application response, about 300 words

Who decides Role and the rule behind it

This is a blank 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.

Who can influence them How?

This is a blank 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.

Who lives with it Who
wasn't in the room?

This is a blank 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.

Done when

- ☐ Accurate division of roles
- ☐ Explains implementation
- ☐ Applies to the cups
- ☐ Correct terms

Need a boost?

- Federalism diagram
- Vocabulary: regulation, policy implementation

The best place to push

[illegible]

Prefer typing? Scan to do this in the online workspace.

Take it off the page Change one thing before the next event.

AP Seminar

Individual written argument on “Should cities charge by how much trash households produce?”, using a stimulus packet.**Use**

Stimulus: EPA hierarchy, one pay-as-you-throw study, one equity critique and one city’s program description.

You’ll make

Individual written argument, 1,200–1,500 words

Thesis A claim someone could reasonably disagree with

Done when

- ☐ Clear question
- ☐ Multiple perspectives
- ☐ Original synthesis
- ☐ Equity addressed

Reason 1: claim, evidence, commentary

Reason 2: claim, evidence, commentary

Need a boost?

- Stimulus annotation
- Perspective map
- Argument outline

The strongest counterargument, and your answer

Why it matters beyond this case



Prefer typing? Scan to do this in the online workspace.

Pre-IB

Write a short investigation report on one item from the last screening, the cups, using the EPA hierarchy, a stated measurement boundary and the city's accepted-materials list. Then write a reflection on the question: how do we know whether a green choice actually helps?

Use

The screening supply list, the city accepted-materials list, the EPA hierarchy page and the crew's count after the next event.

You'll make

Investigation report (450—550 words) with a data table, plus a 250-word reflection

Version A What it says or shows

Version B Same moment, told differently

Done when

- ☐ States a clear, answerable question and boundary
- ☐ Uses data accurately and labels units
- ☐ Applies the hierarchy as a general framework, not a rule
- ☐ Reflection separates what was measured from what was assumed

Need a boost?

- Boundary checklist: what the comparison counts and leaves out
- Report template: question, method, data, limits, recommendation
- Reflection stems on evidence and claims

The difference that matters What does one version leave out, add or frame differently?

Who would react differently, and why



Prefer typing? Scan to do this in the online workspace.

Take it off the page Change one thing before the next event.

IB MYP

Investigate “What happens to what we throw away?” and design a school action with a measurement plan.

Use

Case materials and local recycling guide; global context: Globalization and sustainability.

You'll make

Action plan plus 200-word reflection

Who needs to hear this Be specific

What you want them to do

One action

Done when

- ☐ Focused question
- ☐ Accurate hierarchy
- ☐ Measurable action
- ☐ Reflection on sustainability

Need a boost?

- Statement of inquiry frame
- Action plan template

Headline or hook

The message

The proof Where can people check?

Call to action

Sketch the design



Prefer typing? Scan to do this in the online workspace.

IB DP Global Politics

Rehearse an engagement project on local waste policy: frame a political issue about who decides and who bears the costs of waste where you live (collection, landfill siting, recycling contracts), map the actors (sanitation department, council, contractors, residents, schools), plan ethical engagement with a sanitation or recycling office, and connect the issue to the development and sustainability thematic study.

Use

The case materials, the EPA hierarchy page, your city's recycling guide and one teacher-selected source on where your area's waste goes.

You'll make

Engagement-project proposal, 600—800 words, with an actor map

Who decides Role and the rule behind it

Who can influence them How?

Who lives with it Who wasn't in the room?

Done when

- ☐ Frames a political issue about the distribution of environmental costs
- ☐ Maps actors and their sources of power accurately
- ☐ Plans ethical, feasible engagement
- ☐ Connects the local issue to sustainability without overstating it

Need a boost?

- Actor map: formal authority, resources, influence, who lives near the costs
- Engagement plan template: who, how, what you will ask, consent and safety
- Concept prompts on power, interdependence and sustainability

The best place to push Which person or process, and what you'd ask



Prefer typing? Scan to do this in the online workspace.

Take it off the page Change one thing before the next event.