



TAKE CARE OF TEXAS: EDUCATOR MATERIALS

LESSON PLAN

E-Waste: Community Survey

Objectives:

Students will conduct a community survey to better understand the uses of technology and how to properly dispose of electronic waste

Prerequisites:

Students should understand the concepts of reducing, reusing, and recycling.

Duration:

- Initial discussion: 40 minutes
- Gathering survey data: 2-3 days

Materials:

- Take Care of Texas video – Electronics Recycling (<https://www.youtube.com/watch?v=ndqM3d9Az18>)
- Notebooks
- Links found within lesson

Introduction:

Begin the class with a few questions on e-waste to grab students' attention. Ask students:

- What kind of technology do you or your family have? (Possible answers: a smartphone, TV, tablet, video game console, etc.)
- When was the last time you or someone in your family received or bought a new phone or other tech device? Why was the old item replaced? (Possible answers: It was old, broken, slow, lost, etc.)
- Are there any tech device you want to have? Why do you want them? (Possible answers: It's faster, it has a better camera, new features, etc.)

Then, ask students:

- What do they do with their old phones or devices? Do they throw them away? Leave them in a desk at home?

Write down their responses on the board in a mind-mapping graphic organizer. See the Resources section for sample organizer.



LP24 (Rev. 6/24)

How is our customer service? www.tceq.texas.gov/customersurvey

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Finally, ask students:

- What do you think the term “e-waste” means?
- What makes something electronic waste?

Have them write down their meaning in a journal or notebook. Have students share their meaning with a small group or with the entire class. As students share their meaning, ask students:

- What is the difference between electronic waste and used electronics?
- What are the distinctions between the two?
- How can these distinctions sway the decision to either throw away the electronic or recycle it?

Show students [Take Care of Texas Virtual Field Trip- Electronics Recycling](#).

Explain that students will explore data focused on electronic waste in Texas to help create a survey they will conduct within their homes and neighborhoods. Students will then present information covering facts about e-waste in Texas, the data from their survey, and ways to help reduce electronic waste.

Procedure

1. Divide students into small groups with no more than four students in each group. Students can decide how they want to divide up the research, but each individual will present their own work and survey data.
2. Provide students with the following links that cover electronic waste data for Texas. Included are questions to help guide research.
 - a. What to do with electronics.
 1. Links
 - a. <https://www.tceq.texas.gov/p2/recycle/electronics/manufacture-list.html>
 - b. https://www.tceq.texas.gov/p2/recycle/electronics/tv_recycling.html
 - c. <https://www.tceq.texas.gov/p2/recycle/electronics/computer-recycling.html#consumer>
 2. Questions
 - a. What are some programs that Texans can use for recycling electronics?
 - b. Why is it important to properly dispose of electronics?
 - c. What are some guidelines to follow when disposing of electronics?
 - ii. Electronic waste produced in Texas.
 1. Links
 - a. <https://www.tceq.texas.gov/p2/recycle/electronics/manufacture-list.html#summary>
 - b. <https://www.tceq.texas.gov/downloads/p2/recycling/economic-impact-study/thestudyontheeconomicimpactsofrecycling.pdf>
 - c. <https://www.tceq.texas.gov/agency/data/lookup-data/ihw-datasets.html>
 2. Questions
 - a. How much electronic material has Texas produced within the past few years?
 - b. What trends do you see involving electronic waste in Texas?
 - c. How much electronic waste is contributed by individuals versus corporations?
 - d. How much economic impact does electronic recycling have in Texas?
- b. Using the information gathered, students will work to create a community survey that they will then conduct at home and within their neighborhood. The survey will need to include no more than 10 questions collecting data on how participants handle their electronics once they are not in use. Students can work collaboratively to brainstorm questions. Give students a few days to gather information.
- c. Once students have the data from their survey, they can begin creating an action plan that includes at least two different ways their home or neighborhood can increase their electronic recycling.

Students will need to provide justification using their survey on why they think these ways will help increase recycling.

Assessments

Students can present in any format such as a PowerPoint presentation, video, slideshow, etc. The presentation must include the following components, but teachers should create a rubric based on their specific classrooms.

Glossary:

- **Electronic waste** – any unwanted electronic device

Applicable TEKS:

- **High School** – §112.50.EnvironmentalSystems.b.1
- **High School** – §112.50.EnvironmentalSystems.b.4.a,b
- **High School** – §112.50.EnvironmentalSystems.c.1.a,b,c,d,f,g
- **High School** – §112.50.EnvironmentalSystems.c.2.b,d
- **High School** – §112.50.EnvironmentalSystems.c.3.a,b,d
- **High School** – §112.50.EnvironmentalSystems.c.4.a
- **High School** – §112.50.EnvironmentalSystems.c.6.f

References:

- <https://www.tceq.texas.gov/p2/recycle/electronics/manufacturer-list.html>
- https://www.tceq.texas.gov/p2/recycle/electronics/tv_recycling.html
- <https://www.tceq.texas.gov/p2/recycle/electronics/computer-recycling.html#consumer>
- <https://www.tceq.texas.gov/downloads/p2/recycling/electronics/099-21-1.pdf>
- <https://www.tceq.texas.gov/downloads/p2/recycling/economic-impact-study/thestudyontheeconomicimpactsofrecycling.pdf>
- <https://www.tceq.texas.gov/agency/data/lookup-data/ihw-datasets.html>

Resources

Mind-Mapping Graphic Organizer (Sample)

