GENERATION EARTH

Project Guide

Education Campaign

Waste Reduction & Recycling

COUNTY OF LOS ANGELES CALIFORNIA

Clean LA
LOS ANGELES COUNTY

2025

Generation Earth Program

Generation Earth is a Los Angeles County Public Works environmental education program. Our goal is to educate and encourage youth in Los Angeles County to be an active part of the solution to environmental concerns in their community. We offer do-it-yourself environmental projects that help youth make a positive difference in their schools, at home and in the world. Our programs are built to support the needs of teachers, students and schools.

Waste in Los Angeles

Waste is a vital issue in Los Angeles County. Each person generates an average of five pounds of waste per day. This may not sound like much, but when multiplied over a period of a year, the amount of waste each person creates is staggering.[1] Waste is generally transported to one of ten solid waste landfills around Los Angeles County. It costs money to dispose of it and valuable open space is used to create landfills to store waste.

Reduce, Reuse, Recycle and Rethink

The four R's of waste reduction are reduce, reuse, recycle and rethink. The most impactful is to reduce the amount of materials used. The second is to reuse the material we already have. The third is recycle material back into the cycle of production and consumption. The last R is to rethink and make better choices by incorporating the first three R's into your daily lives. Often, items that are no longer needed by one person, may be still useful to someone else. Proper disposal of textile waste includes keeping it out of landfills through sharing, swapping, donating, recycling and repurposing.

Education Campaign Project Guide

An education campaign is a great way to inform and address waste issues to a specific audience. This guide will help your group raise awareness about waste through an educational campaign.

The Steps

1. Check This Out

Explore the subject of waste by working in teams to learn a specific topic related to waste reduction and share what is learned through the creation of infographics.

2. Pre-Survey

Prior to designing the education campaign it is important to survey members of your audience to find out what they already know or don't know, to provide them with new information. This will help to guide your messaging.

3. Campaign Strategy

Guidelines are provided on how to create messaging and ideas for a campaign strategy.

4. Post-Survey

A couple of weeks after the education campaign efforts, conduct the survey again to help determine whether the audience remembers seeing the communications, as well as the specific content about waste communicated through the campaign.

5. Evaluation

Complete the project by answering questions that serve to evaluate the process and offer next steps for potentially taking on an additional trash related project.

CHECK THIS OUT

To get started, students explore the subject of waste by working in teams to learn a specific topic related to waste reduction and share what they have learned through the creation of an infographic that they share with the class.

Procedures

1. Divide students into six working groups. Groups should be as close to equal in size as possible.
2. Pass out a different topic sheet to each group.
3. Each group has 15 minutes to:
   - Learn and discuss the topic.
   - Use poster paper and markers to create an infographic answering the questions listed on the topic sheet.
4. Each group shares and explains their infographic with the larger group.
5. As a class, discuss the need for waste reduction, at home and in the community.

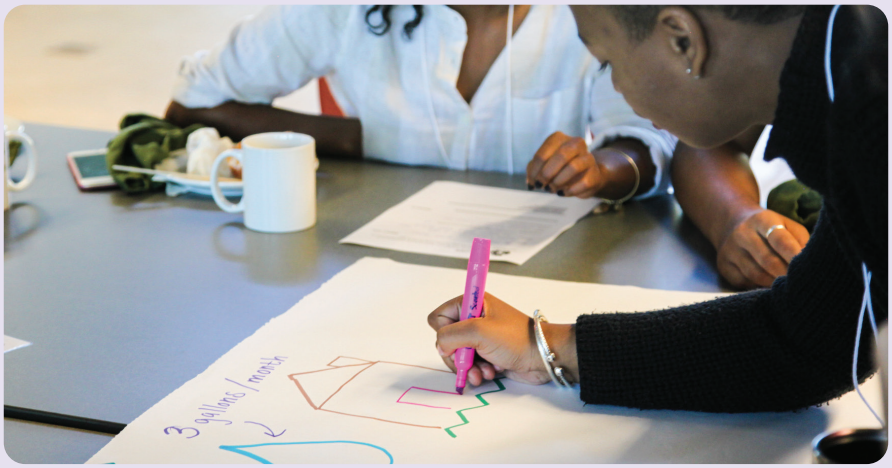
Materials

- Topic Sheets (pages 3 - 8)
- Poster paper or dry erase board —one per group
- Markers—one set per group

High School Option

Guiding questions are provided for each Topic Sheet. These can be optional for use in creating the infographic.

Invite teams to explore their subject further by answering questions they may still have or that came up while sharing the infographics.



Piles of Paper

START HERE!

You're doing your homework and make a mistake in the first paragraph. So, you crumple the piece of paper and toss it in the trash. Did you think about the tree that the paper came from?

Create an infographic that answers the following questions:

- How are paper products created?
- Why is it an issue?
- How much of this paper is wasted in Los Angeles County?
- What is something that can be done on campus to reduce paper waste?

- Trees are harvested and sent to mills to be processed into lumber. The wood waste is sent on to paper mills where it is manufactured into lunch bags, notebooks, paper, magazines, napkins, towels, etc.
- Making paper from raw materials (trees) requires large amounts of water and energy. The pulp and paper industry is among the top five most energy-intensive industries globally and is the fourth largest industrial energy user.[2]
- The average American uses seven trees and 680 pounds of paper per year.[3] Paper and paperboard make up 23.05% of waste generated.[4]
- Paper made from waste paper is called "post-consumer" recycled paper because it has been used and recycled instead of being landfilled. New paper made from recycled paper instead of trees creates 35% less water pollution, 74% less air pollution and 75% less energy is used.[5]
- To reduce the amount of paper going to landfills, find sustainable alternatives such as using a reusable canvas bag, cloth napkins, purchasing post-consumer products, buying items in bulk to reduce packaging waste or collect paper products for recycling.

The Problem with Plastic

START HERE!

When your grandparents were growing up, plastics weren't a big part of their lives. Today, plastics are used for everything from milk jugs and soda bottles to bicycle helmets and auto parts.

Create an infographic that answers the following questions:

- How are plastic products created?
- Why is it an issue?
- What is the problem with plastic waste?
- What is something that can be done to reduce plastic waste?

- Plastics are made from oil, a non-renewable natural resource limited in supply.
- Manufacturing plastic requires large quantities of water and energy resources. Plastic manufacturing also produces harmful chemicals that if not properly treated may pollute our water and air systems.
- Ninety-one percent of all plastic is not recycled.[6] In Los Angeles alone, ten metric tons of plastic fragments (bags, straws and soda bottles) are carried into the Pacific Ocean every day.[7]
- Plastics don't really break down; they just break up. Wear and tear and washing, as well as sun and heat, can slowly turn plastics into smaller and smaller pieces until they eventually become what are known as microplastics.[8]
- Purchasing products with less packaging minimizes plastic from becoming litter on the streets and in the ocean. Marine animals sometimes mistake six-pack rings, plastic bags and other plastic items floating in the ocean as food.
- By recycling plastic, it can be used to make other plastic products such as water bottles and food containers into t-shirts. We fully participate in the recycling process when we collect these products for recycling and then buy new products made from recycled goods.

Pollution Down the Drain

START HERE!

Street gutters are more important than you may realize. They drain water off the streets through catch basins and into storm drains. These openings lead to flood control channels that, in turn, carry the water directly to the waterbodies, such as creeks, rivers, lakes and ultimately the ocean. Water picks up debris as it travels through streets and into the waterbodies.

Create an infographic that answers the following questions:

- What is stormwater?
- Why is it an issue?
- How is motor oil part of the issue?
- What is something that can be done to reduce the effect of urban runoff?

- Rain falls on solid surfaces, such as streets and parking lots, flows across pavements, runs along gutters and enters storm drains through catch basins. This stormwater is called urban runoff. We also create urban runoff when cars are washed on streets, yards are over watered or driveways and sidewalks are hosed down.
- Storm drains help prevent flooding by moving large volumes of stormwater and urban runoff through flood channels directly to the waterbodies without treatment.
- Stormwater and urban runoff is a significant source of pollution. Litter, dog waste, cigarette butts, fast food packaging, plastic shopping bags, pesticides, leaking motor oil – anything on the ground – can end up in the waterbodies.
- Used oil is a major source of waterway contamination and can pollute drinking water sources. In fact, one gallon of used motor oil can pollute one million gallons of drinking water.[9]
- Eliminating the use of harmful pesticides and fertilizers on plants, recycling motor oil and picking up trash are ways to prevent polluted stormwater and urban runoff from reaching waterbodies.

There is No "Away"

START HERE!

When we throw things "away," they don't vanish into thin air. When items are tossed into the garbage, they are sent to a landfill. A landfill is a carefully engineered structure, designed to be the final option for disposing waste.

Create an infographic that answers the following questions:

- What is leachate?
- Why is it an issue?
- Why is methane an issue?
- What can be done to reduce the items that are landfilled?

- Landfills are lined on the bottom and sides with thick layers of plastic and clay. As garbage is dumped, it is covered with layers of soil, foam, plastic or crushed glass to prevent litter and water, soil and air pollution. This also prevents trash from breaking down by minimizing oxygen and moisture levels inside.

- Leachate is formed when rain water filters through waste placed in a landfill. When this liquid comes in contact with buried waste, it leaches, or draws out, chemicals or constituents from those wastes.[10] This contaminated liquid trickles down to the bottom. If the plastic liner should fail or be punctured, the leachate could leak into the soil and underground water system, creating a health risk.

- When tiny bacteria break down food, paper, clothing, wood, yard waste or pet waste, gasses are produced and escape into the air. Most of this gas is methane. Methane is a potent greenhouse gas that has more than 80 times the warming power of carbon dioxide.[11] Landfills are the third largest source of man-made greenhouse gas emissions.

- Reduce the amount of waste going to the landfill by reducing the amount of waste produced, reusing items more than once, recycling and rethinking to find environmentally friendly alternatives. Also, bringing items to household hazardous waste or electronic waste collection events can help reduce waste going into landfills.

Do Not Trash the Neighborhood

START HERE!

Have you ever taken a walk in your neighborhood and saw abandoned furniture, tires, appliances or other unwanted items dumped in alleys, vacant lots and other open spaces? Dumping these items is unsafe and illegal! People caught illegally dumping trash or unwanted items may be subject to a $10,000 fine and six months in jail.[12]

Create an infographic that answers the following questions:

- What is illegal dumping?
- Why is it an issue?
- Why is E-Waste an issue?
- What is something that can be done to prevent illegal dumping?

- Properly disposing of large items requires disposal fees to a recycling facility or landfill. It is illegal for residents, contractors and waste haulers to leave their large items wherever they want.
- Los Angeles County and local cities spend millions of tax dollars to clean up trash and unwanted items illegally dumped.
- Illegally dumped trash attract insects and rodents creating health and safety concerns. Rodents spread diseases, chew through wiring and harm the environment and human health.
- Televisions, computers and other electronic waste (E-Waste) have cathode ray tubes, which contain lead. E-Waste items are hazardous to the environment and should be properly recycled or disposed of by a certified hazardous waste hauler.
- People caught dumping illegally can be fined up to $10,000 and/or jailed for six months. However, it is often difficult for local law enforcement agents to catch these criminals. Report illegal dumping by calling local law enforcement agencies.
- Periodic neighborhood cleanup projects may discourage illegal dumping. It is believed that illegal dumping is less likely to happen in clean, watched neighborhoods than in areas that continuously have large volumes of trash on streets, sidewalks and in alleys.

Recycling Business

START HERE!

Most of the trash generated every day are disposable items made from materials that can be pulped, melted or mixed again into a new item. Facilities were made to process these types of waste into new items.

Create an infographic that answers the following questions:

- What is a MRF?
- What happens to our recycled materials?
- What is the issue now?
- What is something that can be done to keep products no longer recyclable out of the landfill or from being burned?

- Materials Recovery Facilities (MRF) are the collection factories items go to when picked up curbside for a recycling program. High-tech machinery is used to identify and sort out materials. The extra is bundled into a "bale" of high-quality material that is sold to manufacturers to create new materials such as shoes, bags and new plastic products.
- These large compressed bales are loaded into shipping containers and sent to other countries around the world. In 2016, the United States was exporting almost 700,000 tons a year to China alone. Overall, China imported 7 million tons from around the world.[13]
- In January of 2018, China put a ban on almost all imports — banning shipments of recyclables that have a contamination level of .05% or higher. Since recycling bins are almost always contaminated, this means that 99% of the recyclable materials we used to sell to China are no longer being recycled. If no alternative is found, these materials will be sent to the landfill and/or incinerators.
- It is critical that we decrease our dependence on single-use plastics and other products no longer recyclable. Reducing the use of single-use plastics such as straws, plastic bottles and other disposable goods, reduces the risk of products no longer recyclable ending up in landfills.

PRE/POST SURVEY

It is important to survey members of your audience to find out what they already know or don't know, to provide them with new information. This will help to guide your messaging.

A couple of weeks after the education campaign efforts, conduct the survey again to help determine whether the audience remembers seeing the communications, as well as the specific content about waste communicated through the campaign.

Materials

- Waste Survey (page 10)
- Digital devices (optional)
- Pens and clipboards (optional)

Procedure

1. Determine your audience.
   - Who are you trying to educate? Students, teachers or the larger community?
2. Decide where and when you will conduct the survey.
   - Choose a time that has a large group to randomly choose from, such as during lunch or at a sports event.
3. Decide who will conduct the surveys.
   - Surveys will be conducted in person.
   - Several people can conduct surveys at the same time.
   - Make copies of the survey and place them on clip boards to make filling out the survey easier. Or, use a digital device to record answers.
4. Conduct the surveys.
   - Approach and ask a random portion of your audience to take the survey.
   - Be sure each person asks the questions in the same way.
   - The more surveys taken, the more accurate the information will reflect the knowledge of the whole.
5. Analyze the results.
   - Add up the responses and look for any common answers that reflect how much is known about paper and plastic waste, illegal dumping and drain pollution.
   - Use this information to help guide the messaging for the educational campaign. See page 11.
6. After the education campaign, conduct the survey again.
7. Analyze the results.
   - Look to see if the answers reflect the messaging and education provided, compared to the first survey.

Waste Survey

Ask survey participants the following questions and write responses below.

1. **Where does garbage go when it is thrown "away"?**

2. **What materials are recyclable?**

3. **What happens to litter or other pollutants, that are left on the ground?**

CAMPAIGN STRATEGY

Once the pre-survey is complete, use what was learned to help create messaging and an educational strategy to inform your audience about waste. Assign tasks and deadlines for the educational campaign. Consider the following:

Create Messaging

- Based on the answers to the survey questions, you should have a better understanding of the specific knowledge gaps the audience has about waste.
- Choose three to five facts or messages.
- Agree on what you want your audience to learn.
- Keep it simple and clear.

Be creative

- Use the infographics created as inspiration for visuals.
- Think about different ways to convey your message, such as through music, art and video.

Posters

- Create posters and flyers that are appealing to your audience.
- Present information in a way that it is easily understandable.
- Information should be as concise as possible.
- Include appropriate graphics and/or photos.
- Try to avoid too much text or "busy" layouts.

Determine how you want to communicate

Some ideas include:

- Create posters or other signage.
  - — Display them where there's a large majority of your audience.
- Create public service announcements and/or articles.
  - — School PTA newsletters
  - — Local newspapers
  - — Radio stations
- Post on social media.
  - — Online blogs
  - — Facebook
  - — Instagram
- Talk about waste on campus.
  - — Ask school administrator for permission and help in getting the word out.
  - — Make classroom announcements.

EVALUATION

Once the Education Campaign is complete, have students answer the following questions to evaluate their project and introduce some possible next steps.

Questions

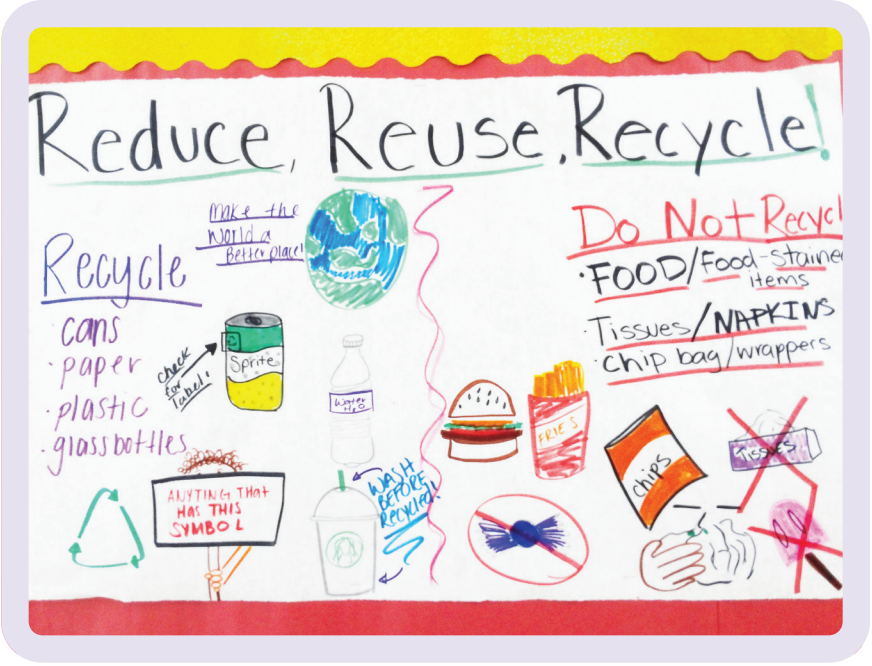
1. What was the most successful part of the project?
2. What was the least successful?
3. What would you do differently next time?

What's Next?

Are you interested in another project?

Consider using another Project Guide:

- Community Swap Event
- Composting
- Campus Curbside Recycling
- Textile Recycling Event
- Food Rescue
- E-Waste Collection Event



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