

Landfills

The Landfill Committee will present fourth.

Please read through the steps carefully.

Remember your ultimate goal is to reduce waste.

Product: A PowerPoint Presentation

- Each committee will present their findings using PowerPoint and YouTube video(s). If you need more than one video to tell your stories, insert a new slide and add the video to the new slide.
- The PowerPoint slides have been prepared for you. You need to fill in the information. Everything in *italics* is to be replaced by your committee.
- You need to know the information on the slides. Use an index card so you face the Summit audience, not the screen.
- You will include bullet points on the last two slides; bullet points should be a few words about your topic. (Insert a new slide if you need more room).
- Each presentation will be no less than 5 minutes and no longer than 10 minutes. The Landfill Committee will have more than one presentation, with a maximum of 10 minutes for each presentation.

1. Elect a Chairman of your committee. Your Chairman will be in charge of the group's presentation to the rest of the class. This will include delegating parts of the presentation.

Successful Chairing for a Successful Committee

Chairs must be good listeners, good communicators, and good organizers.

Successful Chairs:

- ✓ Successful group discussions require planning and participation by all:
 - The Chair asks questions and gets help from their committee.
- ✓ The Chair's job is to keep all committee members involved by making sure each member:
 - has a country/topic
 - has filled in all of his or her slides
 - listens to the other members' findings
 - joins in on the final committee opinions and solutions (Remember, the 6th grade is focusing on how to reduce, or create less, trash)
- ✓ Praise members' good work in writing and verbally
- ✓ Maintain a sense of humor

- ✓ Communicate often. Few people respond to a general invitation; a personal request usually brings faster results.
- ✓ Check in with members until tasks are accomplished; then praise committee member(s) (privately and publicly) for a job well done.
- ✓ Document all your sources as required by your teacher.

2. Target learning standard: How do biases interfere with critical thinking? Be aware assumptions shape people's thinking.

Why is it important to understand what others are thinking?

Today's world is dominated by Not in My Back Yard (NIMBY) thinking. This means people don't want it near them, they don't want to see it, and they don't want to even hear about it.

Additionally, you will likely discover through this unit that many people think trash disposal is the government's job and would rather not be bothered with it.

Look at the facts and the latest science and technology information before making conclusions.

3. Identify and learn about the problem

How does a modern landfill work, and how does trash make it into the landfill?

When thinking about solutions, consider the differences in politics and the environment in different areas. You must understand community values before you can suggest community solutions. Remember, you are looking at this problem from a global perspective.

View all the videos. There are many videos to watch to learn about landfills throughout and at the end of this document. **When you are putting together your presentation, choose which video(s) best represents the point you wish to make.**

PowerPoint Directions

1ST PRESENTATION: OVERVIEW OF LANDFILLS

Slide #1 Title Slide

This slide introduces the committee members and Chairperson. The directions are on the slide in *italics*. Type in the information needed, and then erase the *italic* directions.

Slide #2 Basic Landfill Facts

Replace the *italic* directions with answers to the questions on the slide. The answers to all the questions can be found below or on the linked website.

- *History of Solid Waste Management:*
<http://www.environmentalistseveryday.org/publications-solid-waste-industry-research/information/history-of-solid-waste-management/early-america-industrial-revolution.php>
- “Concentrate and contain” are the basic principles of a modern landfill.
- According to zerowasteamerica.org, there are 3,091 operating landfills in the United States.
- Every town or every county in the U.S. has a dump. There are 39,044 general-purpose local governments in the United States, 3,043 county governments, and 36,001 sub-county general-purpose governments (towns & townships).
- The Environmental Protection Agency (EPA) estimates there are at least 10,000 old and abandoned commercial, private, and municipal dumps in the United States, but there may be more considering the number of towns and counties in the country. The waste management industry estimates the number of old and abandoned dumps is closer to 20,000. Near Austin, Texas alone, there are 70 closed dump sites.

Slide #3 What Happens to Trash in a Landfill?

Use the following information to create note cards to present this slide.



Even after a landfill is closed, the trash buried there will remain.

What Happens to Trash in a Landfill?

Trash put in a landfill will stay there for a very long time. Inside a landfill, there is little oxygen and little moisture. Under these conditions, trash does not break down very rapidly. In fact, when old landfills have been excavated or sampled, 40-year-old newspapers have been found with easily readable print. Landfills are not designed to break down trash, merely to bury it. When a landfill closes, the site, especially the groundwater, must be monitored and maintained for up to 30 years!

<http://science.howstuffworks.com/environmental/green-science/landfill7.htm>

- Most of the old landfills started to close in 1988, which means 30 years of monitoring for many of these sites will end in 2018. How old will you be in 2018?

- Not only do we need to slow the creation of waste, we need to fix decades of problems associated with old landfills. Be sure to convey this message to your fellow Summit members.

Slides #4 & #5 Landfill Videos

After you have done all your research, decide what message(s) you want the Summit audience to understand. View all the videos and select those that best fit the message(s) your committee decides on. Inset your choice(s) into the PowerPoint slide. If you need more room, insert a new slide.

Remember the authors of these videos have a bias; they are promoting their product or their opinion.

No more than half of the time for your presentation can be taken up by videos. This means you only have about 5 minutes of video time. You can use all or parts of a video.

- *How does a modern landfill work?*
<http://www.youtube.com/watch?v=pC1u6rJkyzA&feature=related>
- *Landfill Construction*
<http://www.youtube.com/watch?v=epLv2t9kmos&feature=related>
- *Talking Trash: Lessons from a Landfill*
<http://www.youtube.com/watch?v=zR2eqZlu40M&feature=related>
- *Video Field Trip – Landfill*
<http://www.youtube.com/watch?v=mA608GJ-EzM&feature=related>

Slide #6 Leachate

Define leachate.

Create a bulleted list of significant facts the Summit audience needs to know about old dumps and new, lined dumps as they relate to leachate.

Slide #7 Committee Opinion

Present your committee's opinions and conclusions about the modern landfill.

Slide #8 Committee Solutions

List and present your committee's proposed solutions to address the problems associated with landfills.

2ND PRESENTATION: THE GHOST OF LANDFILLS PAST

Readings

Dennis's Story

The family decided to enlarge the old barn. Dennis found some very old bottles while shoveling out a level spot to pour the concrete for the base of the new barn. Most of the bottles were broken, but he found three unbroken brown vials. Using his left hand, he picked up the vials and set them aside; shortly after, his hand started itching. He washed his hands, put on a pair of work gloves and finished the day. His left hand felt itchy the entire day. When he quit work and took off his gloves, he saw his hand was bright pink. Dennis decided he needed more information about what he was digging up, so he drove down the dirt road to visit his great uncle.

The ranch Dennis was building the new barn on had been homesteaded in the 1890s by Dennis's great grandfather. The big ranch had been divided up into smaller ranches 40 years later when all the sons got married. Dennis's uncle said there used to be an erosion ditch running down the hill by the barn. The family had all taken their trash there and buried it, filling in the ditch. They had built a house nearby for his older brother—the house Dennis now lived in. Dennis showed his uncle his hand, which was now starting to blister. His uncle told him to get to a doctor. Dennis promised to go in the morning. When Dennis woke up, the skin on his hand was starting to slough off and seep blood. The doctor said he had seen something like this during the Great War. The doctor recommended the hole in the yard be filled in and not touched again by anyone. He gave Dennis some cream, a shot, showed him how to keep the hand bandaged and told Dennis it would get worse before it got better. If left untreated, he would have to amputate the hand. The hand completely healed, so no one investigated further.

What Dennis had dug up was an old dump. The dump was created before the days when everything was disposable. All food scraps were given to pigs or chickens to eat; old clothing was made into quilts; all metal, including nails, bolts, etc, went to the blacksmith shop to be melted down; most glass bottles were reused until they broke. Chemicals were just starting to be widely used when the ditch was filled in with trash. Who would have ever guessed there was an old buried dump that close to the barn and house?

Do you know of any old dump sites near you? Some of these old dumps are considered archeological sites.

Building Over Old Landfills

- When a town builds out to its old dump, what do they do? Expanding cities out to dumps is often not included in city planning.
- Most of the old landfills were open air. They were not covered by dirt until they were completely filled up and closed. The idea was “out of sight, out of mind.”

- Florida Man Finds Landfill in Backyard While Digging a Swimming Pool
<http://www.youtube.com/watch?v=H7c52wa01is>
- In the early 1980's, Monterey, California built a condominium/housing development on a landfill. The landfill was a 150-foot deep canyon created by erosion and leveled with trash. The trash started to decompose and the housing units subsided (*1. to sink to a low or lower level*). The homeowners could not sell their homes and they feared their house would come crashing down around them. They also feared what might be coming up out of the dump. One news account called the homeowners 'residential prison inmates' because they could not sell their houses and they could not buy new homes. They were stuck. The home builders and zoning office said the homeowners just needed to compact the trash tighter and dig the support beams deeper. No one wanted to admit a mistake was made when the development was built on a landfill. California isn't the only place this happened - around the country more houses, shops and business centers were and are being built on old landfills.
- *State Senator Wants Answers About Neighborhood Landfill:*
<http://www2.tbo.com/news/real-estate-news/2011/nov/09/state-senator-wants-answers-about-neighborhood-landfill-301968/>
- In Colorado Springs, a developer built a mini mall on top of a landfill at the intersection of Academy Boulevard and Hancock Expressway. Ask your parents if they have ever noticed the continual road construction there. The subsiding road is the reason for the construction. Many of the shops in the mall are empty or abandoned because the buildings are cracking. The officials who approved the building permit were told building over landfills was not a problem because engineers had learned from the mistake in California. The officials believed it. Several of the parks and ball fields in Colorado Springs have been built over old 'capped' landfills.
Reference <http://www.coloradosprings.com/articles/hospital-14901-landfill-ever.html>
- New York has run out of places to put their trash. The garbage is put on trains and moved out of state. They too are building over the old dumps. They believe they can dig deeper and cap tighter. One project calls for capturing the methane to power all the development site buildings plus supply electric power for 400,000 additional homes.
- A growing number of people in the United States are not convinced it is safe to build over old dumps. These people believe there is no way to know what is buried in old landfills. They are also concerned about dumps producing toxic cocktails of gasses and leaching polluted water into wetlands and streams. They believe nature does not have a means of dealing with all this toxic waste.

What do you think? Your committee needs to form an opinion. Remember, your opinion can evolve (change) as you learn more.

- THE GAZETTE - Colorado Springs Newspaper.

Reading Dated: December 20, 2011 12:59 PM .

By: Andrew Wineke

An old landfill is more of a liability than an asset: A big, flat open space that you can't build on, that belches methane and that threatens groundwater if it's not maintained. That's the situation [Colorado Brownfields Foundation](#), a nonprofit that works to remove environmental obstacles to community development, struggled with at the former Templeton Gap Landfill near Woodmen Road and Powers Boulevard, just south of St. Francis Medical Center. The 40-acre landfill opened in the 1970s, shut down in the late 1980s and has sat there ever since — a privately owned mesa of dirt and grass with a great view of Pikes Peak and little to no economic value.

The city of Colorado Springs has gradually encircled the site, but never annexed the landfill, since there was no reason to. It remains owned by a group of private partners from its days as an operating business, although it's managed by Colorado Brownfields. "The reason why they can't get rid of it, is who would want it?" Jesse Silverstein, executive director of Colorado Brownfields said of the site's owners. "If you own the site, you're responsible for any pollution that might come off of it. The only thing anyone is buying there is the potential liability. That's kind of the stickler — that's what makes a brownfield a brownfield."

Slide #1 The Ghost of Landfills Past

Replace all *italic* words on the PowerPoint with your names.

Slide #2 Hidden Dangers

Make a bulleted list of things/trash your committee would not like to have show up in your yards. You may use clip art or photos cut and pasted in, but only if done as homework.

Slide #3 Health Hazards

Your committee read several readings about people living unknowingly over old landfills until the 'ghosts' started to haunt them. Have a little fun and tell their stories in haunted ghost story fashion.

Slide #4 Video

Insert a YouTube Video that conveys the point you are trying to make about old landfills. A picture (in this case, a motion picture) is worth a thousand words.

Florida Man Finds Landfill in Backyard While Digging a Swimming Pool

<http://www.youtube.com/watch?v=H7c52wa01is>

Underground Explosion Hits Mexico Garbage Site
<http://www.youtube.com/watch?v=WcXg05kZl64>

S. Korea Turns Trash into Eco-Attraction
<http://www.youtube.com/watch?v=GqSA5IZF41s>

Good videos - do they have a fit?

The Zero Waste Home <http://www.youtube.com/watch?v=qXTS5UVtb5s&feature=related>

Zero Waste <http://www.youtube.com/watch?v=msY-JiCgGvg&feature=related>

Zero Heroes! Mission: Zero Waste
<http://www.youtube.com/watch?v=7JrEff9s62w&feature=related>

Quick Grocery Bag from an Old T-Shirt
<http://www.youtube.com/watch?v=3OtBEkKv0QI&feature=related>

DIY – How to Make a Carpet Recycling Old Jeans
<http://www.youtube.com/watch?v=TAXDntZcZ2k&feature=related>

How to Turn Old Jeans into a Floor Mat
<http://www.youtube.com/watch?v=GYFmUhNUCfA&feature=related>

Making Area Rugs from Recycled Jeans
<http://www.youtube.com/watch?v=IAjmoP-F5iE>

Waste Management Single Stream Recycling
<http://www.youtube.com/watch?v=GP3JuiX5BY>

DADS Single Stream Recycling Service
http://www.youtube.com/watch?v=UZ_tNmKq7Fw

What's up with Trash?

<http://library.thinkquest.org/06aug/00442/wu3rs.htm>