

Teacher's Guide

Please note in planning this unit, any students with an IEP should start on the China committee a week earlier in the resource room.

The LEED qualifications for your Best School Grant requires students to have 10 hours of contact time learning one of the targets that awarded the school the gold standard—in other words the money to build your new school.

Your school must recycle and pledge to reduce their consumption of waste. In the process of demolishing the old school, more than 80% of the materials were recycled – did not enter the waste stream. Sixth graders will be focusing on reducing waste and learning lifelong lessons and habits. Service hours do not count for learning contact time.

Your class will hold a Summit on trash reduction. You will assign committees. Each committee will become experts on their topic and report at the Summit. The final outcome of the Summit will be to find an action they can take to reduce the trash problem. They should find ways to vote with their money. They are about to embark on an educational journey to save the world, one less piece of trash at a time.

In an effort to have students understand the enormity of the problem of trash, student will investigate problems in the world, in our nation and in our state. They will state their opinion on the problem their committee has investigated and make recommendations.

Pre-teach skills: These skills are the same for every committee within the Summit group on how to reduce the stream of waste. (Instructions are after the State Standards section)

1. Teach students what a committee is and what the duties of the chair of the committee are. (You are the facilitator of the Waste Reduction Summit).
2. Teach students how to embed a video into a PowerPoint presentation and cut and paste a map into a slide. All the PowerPoint slides have been premade; student will fill in the required information.

How to Embed a YouTube Video

A good tutorial for how to insert YouTube videos into PowerPoint presentations is available on the Digital Inspiration website at: <http://www.labnol.org/software/insert-youtube-video-in-powerpoint-presentations/5393/>

Note on Embedding Videos

If you are using a Mac computer, the embedded videos will not play. Switching to a Windows computer should fix this problem. Feel free to contact Jeff Ravage, CUSP's Deputy Operations Director/ IT Specialist, at ravage@uppersouthplatte.org if you have additional questions about embedded videos.

3. Your preferred method of documenting sources.

4. Housekeeping:

- a. At the end of each class period or day, committee chairs must report committee progress. Decide if this is private or a daily de-brief with time for the chair to 'praise' the committee in front of the class.
- b. Schedule a daily time (platform) where committee chairs can present questions etc.

State Standards: The exact language from the standard is used on the student instruction pages; they are in bold for your convenience.

Content Area: Reading, Writing and Communicating

Grade Level Expectations: Sixth Grade

Standard: 4. Research and Reasoning

Evaluate explicit and implicit viewpoints, values, attitudes, and assumptions concealed in speech, writing, and illustration

2. Assumptions can be concealed, and require identification and evaluation

Students Can:

- a. Accurately identify own assumptions, as well as those of others
- b. Make assumptions that are consistent with one another
- c. Identify the natural tendency in humans to use stereotypes, prejudices, biases, and distortions
- d. Identify stereotypes, prejudices, biases, and distortions in self and thinking of others
- e. Accurately state the assumptions underlying the inferences they or others make, and then accurately assess those assumptions for justifiability

Inquiry Questions:

1. How do assumptions shape people's thinking?

Articulate the position of self and others using experiential and material logic

Concepts and skills students master:

3. Monitoring the thinking of self and others is a disciplined way to maintain awareness

Students Can:

- a. Determine strengths and weaknesses of their thinking and thinking of others by using criteria including relevance, clarity, accuracy, fairness, significance, depth, breadth, logic, and precision
- b. Take control over their thinking to determine when thinking should be questioned and when it should be accepted. (Intellectual autonomy)

Inquiry Questions:

1. Why is it important to understand what others are thinking?

Gather information from a variety of sources; analyze and evaluate the quality and relevance of the source; and use it to answer complex questions

Concepts and skills students master:

1. Individual and group research projects require obtaining information on a topic from a variety of sources and organizing it for presentation

- a. Conduct short research projects to answer a question, drawing on several sources and refocusing the inquiry when appropriate. (CCSS: W.6.7)
 - i. Identify a topic for research, developing the central idea or focus and potential research question(s)
- b. Gather relevant information from multiple print and digital sources; assess the credibility of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and providing basic bibliographic information for sources. (CCSS: W.6.8)
 - i. Use a range of print and nonprint sources (atlases, data bases, reference materials, online and electronic resources, interviews, direct observation) to locate information to answer research questions
 - ii. Locate specific information within resources using indexes, tables of contents, electronic search key words, etc.

Inquiry question:

2. With all of the resources available to me, which one would I not want to be without? Why?

Content Area: Reading, Writing and Communicating

Grade Level Expectations: Sixth Grade

Standard: 1. Oral Expression and Listening

This standard is broadly met.

Collaborate effectively as group members or leaders who listen actively and respectfully pose thoughtful questions, acknowledge the ideas of others, and contribute ideas to further the group's attainment of an objective

Concepts and skills students master:

1. Successful group discussions require planning and participation by all

Students Can:

- a. Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation. (CCSS: SL.6.4)
- b. Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information. (CCSS: SL.6.5)
- c. Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (CCSS: SL.6.6)
- d. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. (CCSS: SL.6.1)

- i. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. (CCSS: SL.6.1a)
- ii. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed. (CCSS: SL.6.1b)
- iii. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. (CCSS: SL.6.1c)
- iv. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing. (CCSS: SL.6.1d)
- e. Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study. (CCSS: SL.6.2)
- f. Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not. (CCSS: SL.6.3)
- g. Use evidence to develop credibility (such as citing textual evidence to support opinions)
- h. Recognize the difference between informal and formal language and make choices appropriate for group purposes

Inquiry questions:

1. What happens when members of a group don't listen to one another?
2. How do members of a group know if they are using credible sources?
3. What active listening strategies can individuals use while working in a group?
4. Why is it important for people to wait their turn before providing an opinion or giving feedback?
5. What tools can be used in a small group to organize the discussion?

Time Frame

Purpose of Learning Module/LEED requirements/State Standards	1 Class Period
- <i>will require lab work</i>	
Assign Committees and Topics, Elect Chairperson	1/4 Class Period
Overview of Committee Tasks/Presentations	1/4 Class Period
PowerPoint Editing, Inserting Graphics and Video	1/2 Class Period
Background Reading/Review YouTube Videos	2 Class Periods with Homework
Create PowerPoints/Practice Presentations	2 Class Periods with Homework
Summit/Presentations	3 Class Periods
Summary/Discussion	1 Class Period
Optional Final Report by Student	Homework
- <i>Students report on how they made lifestyle changes and/or plan to implement change.</i>	
Total	10 Class Periods + Homework

The Waste Reduction Summit

The Summit will be conducted as a gathering of experts. The purpose is to find real world solutions, on both a global and local level, to the issues surrounding the massive amount of solid waste humans produce. Potential concerns could be political, social, economic, and especially environmental. Solutions absolutely must include the three R's – Reduce, Reuse, Recycle – and Compost.

The teacher will act as facilitator of the Summit, introducing the committees in presentation order, and ensuring students adhere to time limits. If time allows, the teacher should encourage discussion, either after each presentation or at the end of the class period.

Committee chairs will introduce the presentations and committee members, with the whole of the committee sharing the balance of the presentation topics. Following the PowerPoint presentation, if the facilitator (teacher) agrees, the chairman will direct a discussion with the class and committee on their topic.

On the final day of the Summit, the teacher will facilitate a discussion with the class to identify their priorities, opportunities, concerns, and proposed solutions to waste issues. Students should be encouraged to think individually, regionally, and globally. What should our leaders do to create better policy? What can we do as individuals to reduce our impact? Is our school doing all it can to be a model for the community? These questions, or others developed by the class, could be used as a final assignment for a report, if desired.

Finally, thank all the Summit participants for their contributions. The whole is greater than the sum of its parts, and when a group of dedicated individuals, each with their unique strengths comes together, great things can happen. It is only by acting cooperatively and collectively that we can hope to make a difference. We share one world. Our stewardship will help it last.

Pre-Test and Post-Test

The pre-test and post-test each include the same 20 questions covering information from all the topic areas examined in the student presentations. Questions are multiple choice and true/false. The pre-test is designed to be administered at the beginning of the module, before the students start their research and prepare their presentations for the Summit, and the post-test is meant to be administered following the Summit presentations to assess what students have learned from this module.

Committees and Presentations

Each committee will be assigned a topic. Their product is a PowerPoint presentation. The slides have been created for them. All directions in italics are to be erased and filled in with the committee's information. Students should be encouraged to insert graphics, add animations, and to make their presentation as engaging and interesting as possible.

The committee will be given background readings. They are to become the experts on their topic and report at the Summit. Some committees have more than one PowerPoint

presentation—one per country or supporting details of a topic. For all committees, students should share in the presentation.

During the presentation, students should elaborate on the topics of the slides. They should write the information on a note card to look at when presenting, rather than looking at the PowerPoint display. They need to practice what they are going to say. Students should be encouraged to say more than just the bullet points on the slide. In the notes section of the presentation there are hints as to what they can elaborate on. The student should utilize these notes.

Students will embed YouTube videos into their presentations. The videos cannot run more than 15 minutes in total. Presentations should be 20 to 30 minutes long.

On the second to last slide, students will state their opinion about their topic, giving praise or criticism.

The last slide is the most important. Students will offer their solutions to the problems associated with their topic on this slide. Students should not only suggest solutions to the problem assigned, but also explain how they could incorporate the suggestions into their lives.

The learning targets are trash reduction and creating solutions that are useable, not just creating a PowerPoint presentation.

Example:

Problem: Denver has too much air pollution in December.

Non-useable solution: No cars other than electric can be driven during Decembers. This would definitely solve the air pollution problem, but it would shut down the city and bankrupt many businesses.

Useable solution: All mass transit will be free during December. All companies are encouraged to reward employee carpooling.

Committees and the Duties of the Chair

Each committee will elect a Chairman. The 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 sources as required by the teacher.

Presentation Order

Please note the China presentation is designed for students with an IEP that utilize a resource room. If there are not any such students, the teacher must take over the role of this committee.

A. Introduction video and reading

1. Trash in developing countries.

- Egypt
- Brazil
- Philippians

Each country has a presentation. They should lead a short discussion at the Summit on other solution suggestions and take notes. One of the conclusions this group should come to is how tourists can reduce their trash and then connect the dots to how anyone who is away from their house can reduce the amount of trash they create.

2. China: an Emerging Market Economy

- **China is so big and talked about so much in the news. This committee has more help built into the slides and more background information. They will need the extra class period afforded by the resource room. There is a lot to view and to read. China's deep history is important to understanding China today.** This committee was originally created for G&T students. However, because of all the little life lessons woven into China's history, this committee project presents a valuable learning opportunity for at-risk students. They should start on this project a week before the rest of the class. They will need the extra time to practice their presentation delivery. The conclusion this committee should have help drawing is: haste makes waste, literally. The China committee should also come to the conclusion the United States has learned many lessons from our own environmental mistakes that could be shared with China. Every project must be thought out down to the waste and environmental impacts.

3. E-waste. This committee will be doing some PowerPoint animation. This committee is for those students that just need to get the showboat, jittery shock and awe out of their system. To that end, this committee will be using animation effects on one slide. The slide's objective is to

overwhelm the audience with the enormous amount of electronics in the world. Ideally, this PowerPoint presentation will also have images to demonstrate this concept (e.g., piles of cellphones). The group's solutions might include electronics recycling events at the school – either a new event or an existing event with a greater emphasis on marketing and student involvement.

4. Modern landfills and developed countries. This committee has several topics, each of which could be considered a separate committee at the teacher's discretion. These topics deal with modern landfills in developed countries, along with the pros and cons of waste recovery techniques commonly utilized. The PowerPoint presentations each have generic slides that will be filled in with details by the committees. The slides include basic facts, definitions, advantages and disadvantages, committee opinions, and proposed solutions. One slide is dedicated to embedding a YouTube video. The final objective in each case is to identify reduction in waste as the ultimate solution.

- **What is a landfill, dump etc.** - This presentation concentrates on modern landfills, how they work, and how trash gets to them. It explores NIMBY (not in my backyard) thinking, the vast numbers of landfills, leachate, and includes a section on the ghosts of landfills past.
- **Gas to energy** - This presentation considers methane as a part of the landfill gas produced by the decomposition of trash. The committee will describe the dangers of this gas, methods for capturing it, and ways to use it to produce energy.
- **Incineration** In this unit, students will learn about the trash disposal method called incineration. They will compare its use in different countries and why, explore the technology involved, and will weigh the pros and cons of burning trash as an alternative to landfilling.
- **Single Stream Recycling** - For this unit, students will explore the details of Single Stream Recycling. The benefits and disadvantages of this type of recycling will be considered, both for the consumer as well as for the commodity purchaser and manufacturer of post-consumer goods. Students develop an appreciation of resource requirements and end-use benefits for recyclable products that we in the developed world use now and are likely to use in the future.