

# Compost Presentation

## Supplies:

Recyclables: 1 piece used paper, cardboard, newspaper, plastic bottle, tub, fork, soda can

Compostables: banana peel or apple core

Trash: chip bag, plastic baggie, Styrofoam

Sample school lunch

Cell Phone

Attached Visuals

## Introduction

Today we are going to talk about things we can do to protect the environment. We'll talk about a few different things you can do here at school, and I want to start with asking you all a question:

## Wants and Needs

If I gave you \$1,000, what would you buy? (**Write responses on board.**)

- Now, of all these things, which are things you need?
- What does it mean to be a **need**? (**Take answers and transition into the definition of needs.**) A need is something that will affect your survival or physical well being if you don't get it.
- There are three things all human beings **need** in order to survive, like **air, water and food**. These are called "**survival needs**". (**Write "survival needs" on the board and list "air, water, food"**)
- Now, let's think about those of us living in the Bay Area. We also have other kinds of needs. We don't really **NEED** these things to survive, but we do need them to live our daily lives and do things like go to school. These are called "**Daily Needs.**" (**Write "daily needs" on the board**) For instance, we need to use things like shoes, clothes and paper in our daily lives. (**Write "shoes, clothes and paper" on the board under "daily needs."**)
- Let's talk about this for a minute: Living in a city, we need shoes to protect our feet. (**Pause for effect.**) But, do we **NEED** *fifty* pairs of shoes? No, we might **WANT** fifty pairs of shoes, but we don't **NEED** fifty pairs of shoes. (**Write "Wants" up on board and write "50 pairs of shoes" underneath.**)
- A **want** is something we would like to have, but don't need at all.
- For example, do we need a coat here in San Francisco? Yes, we do. (**Write "one coat" on board under "daily needs."**) Now, do we **NEED** *ten* coats in different colors? No, we might **WANT** ten coats in different colors, but that is definitely not a need. (**Write "10 coats" on board under "Wants".**)
- Now, we all have wants and needs and that's okay. It's okay to take and use things that we want. What we need to remember though is that whenever we use something that we want or need, it comes from nature. That's because absolutely *everything* we use comes from something originally found in nature. Now because care about the environment and want to protect it, I sometimes choose to use only the things I *need* to make my impact on the environment smaller. Of course, I also choose to use things I



want, but I try to be smart about it.

- To help me make these decisions, I look at the environmental impacts, or the **ecological lifecycle**, of the things I want. Let's take the... cell phone, for example. **(Typically students list a cell phone as an item they'd buy with \$1000. If so, point to the "cell phone" written on the board.)**\* (See extension on last page to further teach about this issue.)
- An **ecological lifecycle** explains how the whole life of a product—from its production, to its distribution, use, and disposal impacts the environment. \*\* (See extension on last page.)
- So for a cell phone, we would first consider the **natural resources** that go into making it. (Natural resources come from nature and are used, or turned into the things that we want, and the things that we need to survive.)



- Cell phones are made using a rare metallic ore called "coltan" that gets mined from the Congo rainforest in Africa. Sadly, this mineral is mostly found in the area where the endangered lowland gorilla lives, and their **natural habitat** is being destroyed so we can have new cell phones. As their forest home gets destroyed, more and more gorillas struggle to survive and they may go extinct as a result.
- Cell phones are also made using other metals mined from the earth, as well as plastic, which is made from petroleum. Plastic is used not just for the phone itself, but for the packaging, too.
- We would also consider what happens to cell phones when we throw them out.
  - Have you ever noticed how sometimes you think you really *want* something like a cell phone, and you buy it? And then after a little while you want an upgrade or it breaks? Well, where does that cell phone usually end up? In the **garbage!** (Show landfill image.)
  - If thrown out in the trash, cell phone batteries are toxic, or hazardous waste. When cell phones get into the landfills, they can leak toxins into the soil; these toxins may eventually end up in our water table affecting the local water supply.
  - By throwing the phone away, we've also just wasted a huge amount of natural resources so that with each new cell phone purchased, more coltan and other metals must be mined, and more petroleum must be extracted.
- We would also do the same sort of analysis about where the phone was made and how far it traveled to reach you.
- So, now I can make my decision. Do I really want a new cell phone or would I rather save natural resources and protect the rainforest in the Congo? One woman I worked with decided not to have a cell phone at all! I *did* decide to buy a cell phone. But I also decided to not replace it until it breaks irreparably. **(Insert your own anecdote here.)**



### The 3R's

- So, how can I reduce the impact of the cell phone I already have or want? **(Take answers and write on the board.)** We can:
  - **Reduce** the number of cell phones we use. Instead of upgrading every year upgrade when you really have to; for instance if your phone breaks. **(Emphasize that this is the choice with the most significant effects.)**



- **Reuse** cell phones. If you have a friend or family member who gets a new phone every year or two, you could ask them for their old phone (if compatible) to reuse. **(Show cell phone images.)** 426,000 cell phones are thrown out each day in the US. Surely those phone could be reused, or if not, then:
- **Recycle** cell phones. If your old cell phone is broken beyond repair, you can recycle it. The good news is most cell phone companies will take your old cell phone (even the accessories) to be recycled at no charge. \*\*\* (See extension on last page.)
- By reducing, reusing and recycling cell phones, we can lessen the ecological impacts of our consumption of cell phones and protect the environment.

## Recycling

- From cell phones to soda cans (**Hold up a cell phone in one hand, and then a soda can in the other.**), recycling really does protect nature and our world.



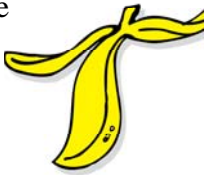
- When we make new cans from old cans, we save energy and water used during the extraction, transportation and manufacturing process. In fact, making a new soda can from a recycled can takes *95% less* energy than making a new one!
- AND, it means we don't have to go back into natural areas like the rainforest to mine more minerals to make new cans. What mineral does aluminum come from? Bauxite. Bauxite is dug up underground in places like the tropical rainforests of South America and other parts of the world. In order to dig up bauxite from the ground, rainforest trees and other plants must first be cut down, and animals like the spider monkey and the toucan that live in these trees end up losing their habitat. So do the indigenous peoples that live in the forest. By recycling aluminum cans, we're helping reduce the demand for new bauxite and protecting rainforests.
- Making products from recycled materials instead of new ones also emits less pollution at the factories because it uses less energy. We know that many factories create pollution that can cause illnesses like asthma and even cancer, so the less pollution, the less pollution-related illnesses- and that's good for everybody.
- Finally, when we recycle paper products like notebooks, old term papers and tests, junk mail and cardboard, they are less likely to litter our oceans, parks and streets, and we help prevent clear cuts.
- We also protect our planet's forests, which help fight global warming since living trees absorb excess carbon dioxide from our atmosphere. **(Optional: Show global warming image.)**



- Here in San Francisco we can recycle many things. We can recycle all **paper**; this includes, school paper, magazines, newspaper, cardboard, and even junk mail envelopes.
- We can also recycle all **glass bottles and jars**.
- **All metal cans**, including soda and soup cans, and even your aluminum foil.
- **Plastics**. Here in San Francisco, we can recycle all hard, clean plastic, like bottles and tubs and even CD cases! Here is an image of the amount of plastic drink bottles used in the US every 5 minutes. **(Show plastic bottle images.)** That's **2 million** bottles we use every five minutes! We are throwing away lot of petroleum that we could have recycled.

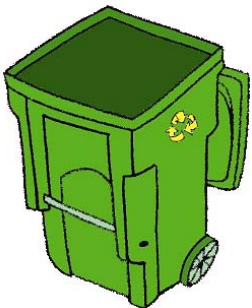


- Can we recycle this plastic chip bag? (**Hold up a chip bag.**) No, when an item is made of plastic, metal, and paper all mixed together, like this, it cannot be recycled.
- What about this dirty plastic fork? No. It's too dirty to put into the recycling bin. If it were clean, then it would be okay.
- And what about this plastic bag? No.
- One great thing about recycling bottles and cans is that you can make money:
  - Every time you buy a bottled or canned beverage, you pay a small fee called CRV. If you bring your containers to a Recycling Center, you actually get a CRV refund, making some of your money back.
  - (**Hold up a banana peel or apple core.**) So, how about this banana peel (or apple core)? Can it be recycled too? Well, yes, it can, but not into the blue bin.



## Composting

- Recycling food, which I am sure you have all heard about, is called **composting**. Composting happens naturally in nature and can also be done in a large pile outside, in a classroom worm bin, or in the green bin we have here in San Francisco.
- But... is composting a banana peel (or apple core) really all that important?
- Composting *is* important for several reasons. Can anyone tell me just one?
  - Composting food scraps helps conserve natural resources, just like recycling. Except instead of conserving trees or petroleum, it helps to conserve and build healthy soil. Plants need nutrients to grow, and they get most of their nutrients from the **topsoil**, or upper-most layer of the soil. Nature takes more than 500 years to create one inch of topsoil, yet this very topsoil can be lost in less than a year because of chemical fertilizer and pesticide use. When we compost, farmers can use the compost to put nutrients back into the soil. This helps create healthy soil so that harmful chemical fertilizers and pesticides aren't needed.
  - Here in San Francisco we can help build topsoil by turning our food scraps into compost. Did you know that on average people who live in the United States throw out more than 25% of the food we prepare?! That's a lot of food going into the garbage that could be used to make more topsoil.
- How many of you have a green bin at home? Now, how many of you use it?
  - The green bin is where we can put anything that comes from a plant or animal to be composted. It's really simple. We can compost things like apple cores, chicken bones, orange peels, cheese, eggshells, even dirty paper and cardboard like empty milk cartons, coffee cups, paper food trays, and greasy pizza boxes. This material decomposes and turns into nutrient-rich compost. (**Show apple cycle visual.**)
  - Local gardeners and farmers then use this compost to replenish their soil, return nutrients to their fields and grow more food!

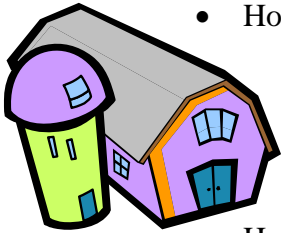
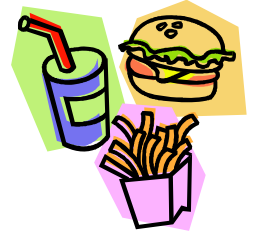


Not only does composting help protect and build healthy soil in forests and farms, it also helps stop global warming. What are two main greenhouse gases? (**Carbon dioxide and methane.**) Methane is a gas that is created by cattle and other livestock, and it's also created by landfills when food that is thrown into a landfill doesn't decompose properly- when it decomposes **anaerobically**, or without oxygen.

- Methane is the second largest contributor to global warming and it's 20% more powerful than carbon dioxide. This means that when we compost our leftover food instead of throwing it into the trashcan we help reduce greenhouse gases.

## Composting at Your School

- Now, I am pleased to tell you that starting (**insert date here**) your school is going to compost during lunch. Your class is going to take a leadership role to help teach other students about what can go into the green bin.
- **Do a review quiz about what goes where referring to a sample lunch, if available.**
- As leaders of this program, you'll have to help other students remember what can be composted, what can be recycled, and what has to be thrown in the trash.
- Let's brainstorm some ways we can teach the school community about what goes where:
  - Assemblies, in-class reminders, posters around school, posters at lunch
- How can we motivate the school community to help us?
  - What ideas that I presented motivate you? What do you care about? (Health, animals, topsoil, food production, global warming, cost, etc.). How could you use these ideas in a compost campaign?
  - Newspaper articles, art contests, contests between lunch periods or schools, PA announcements,
- How can we help out in the lunchroom?
  - Hang posters, model proper disposal, monitor the bins, tell and encourage friends, focus on one item each week to emphasize proper disposal of (See the Plastic Bag Monster Campaign for ideas: [http://www.youtube.com/watch?v=A0CoDsuFE\\_M](http://www.youtube.com/watch?v=A0CoDsuFE_M))
- Prioritize certain ideas, choose students to take the lead, and create timelines.



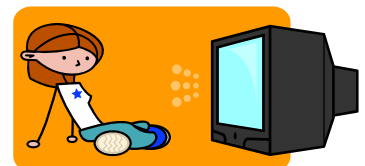
## Conclusion

I want to thank all of you for your attention today.

I am hopeful about the future because students like you are learning about the importance of protecting the environment, and you're using your power to make a positive difference.

## Extensions

- \* To emphasize media's role in consumerism, add this part:  
By the way, who's making me *want* a cell phone? Who's telling me I *need* a cell phone...every two years!?! (**Cell phone companies.**) How are they telling me? (**Through advertisements on billboards, magazines, television, radio, newspapers and home mailers**) Why do *they* want me to need cell phones...and to need new ones so often? (**Financial profit**)



- Because I know that the true motivation of cell phone companies is to make as much money as possible by selling as many phones as possible and by convincing me I need to regularly upgrade my phone, I consider the impacts of

buying a new cell phone every year. What kind of pressure will I put on the environment? **(Say this rhetorically.)**

Before we answer that question, let's make a list of the environmental issues you are concerned about, have read about in the newspapers, or have seen on the news. Then we'll see if we can connect them to the ecological lifecycle of a cell phone. **(Write responses on board (add global warming if no one offers it), then return to the cell phone question. Reference the environmental issues they raised when appropriate.)**

- \*\* Show *The Story of Stuff* online or from SF Environment's Lending Library to learn more about ecological lifecycles.
- \*\*\*Have students begin a cell phone-recycling program at your school.
- Teach *The True Cost of Cool* lesson plan about media literacy and consumerism.
- Have students calculate their ecological footprint- the amount of land and water needed to sustain their lifestyle.  
<http://www.footprintnetwork.org/en/index.php/GFN/page/calculators/> or  
<http://www.earthday.net/footprint/flash.html>
- Take a field trip to Jepson Prairie Organics, San Francisco's composting facility (in Vacaville). <http://www.jepsonprairieorganics.com/index.php>
- Have student conduct a waste assessment of your school's trash.



### Tasks for a Student-led Compost and Recycling Program



- Students roll green and blue bins into the cafeteria or courtyard and place them in stations.
- Students line green bins with compostable bags and binder clips.
- Students monitor lunch stations for the first few weeks of composting, 1-2 students per station.
- Students empty classroom blue bin contents into blue bins.
- Students roll green and blue bins out to curb for pick up.

Municipal solid waste landfills are the second largest source of human-related methane emissions in the United States, accounting for nearly 23 percent of these emissions in 2006.