

The Script.

The transcript with presenter notes.

The presenter text is in purple (what the speaker will say), the cues are in black marking the time when the speaker should present the spoken words.

Title

South Lake Tahoe Waste Management

- Andrea Chavez

Age group of my audience:

My audience is primarily the light hearted, the kids, whether it's the adult kids at heart or actual children by age default. The take home activity and helpful questions are for all ages, some of the questions are directed at consumers, so young students that do not have a purchasing power might ask these questions to their parents.

The considerations are general, although depending on the age group, some younger students may not be in charge of how they spend, but the questions could be redirected or rephrased so parents could partake.

Useful props and preparation:

Preparation:

Visiting the South Tahoe Refuse for a small chat is encouraged so the speaker is more well rounded for delivery and in order to answer questions. Prep time: approximately 1 - 2 hours at the tahoe refuse center.

Speaker could do a quick research into some of the terms used, such as "plastic, waste, landfill, recycle, compost, green material, methane."

Props for an in person presentation could include the following: different types of plastics #1, 2, 3, 4, 5, 6 or 7, maybe one or two, preferably 1 or 2 as we want to avoid having the other plastics all together. Passing items around for further inspection. Avoid bringing single use plastics as we want to avoid single use plastics all together and ban them for life.

Tahoe Refuse Blue bag, maybe hand them out to students for them to try at home.

Note:

Strong control over sense of smell. The Tahoe Refuse center, particularly the collection, sorting and conveyor areas have a strong smell.

Environmental Setting:

The best landscape would be to take a real tour through the facility. They offer lots of field trips to our kids in our schools and are very happy to share their work and how they do it with everyone.

In an ideal setting, I would pause the video after some of the questions from the little mouse, and give the class some time to try and answer. For example when the little mouse or when pinky ask things like "What's a landfill?". Since this presentation is being done during the

COVID 19 restrictions and the class is online, the video is non stop. For future presentations, the speaker has the option to pause after each question and allow students a chance to answer.

Group questions that speaker can pose for further class discussion after presentation:

Why do humans create so much waste especially in the last several decades?

What has changed in society for this to happen?

Why is tourist culture linked to single use plastic?

How have we become reliable plastic products?

How does methane hurt our environment?

How exactly is plastic turned into clothing, or paper?

What is the difference between biodegradable and compostable?

Solution oriented questions

What are alternatives to plastic packaging?

What materials could we purchase more of, or instead of, so companies would see a supply and demand change? (for example, as an artist I buy oil paints, but looking into natural dyes and adobe paints could influence the market to create more natural inks, dyes and paints.)

Considerations:

If I create something, I should be held responsible for it. Consider how companies currently mass create items and many do not offer a take back option.

What can we do?

Some options are reaching out to the company in efforts for them to become accountable.

Following legislature that would bring this accountability to light.

Boycott several companies until they begin the change.

Change will be slow, but it is not impossible.

Activity:

A take at home activity on how to differentiate plastic, like a chart of the 7 types of plastics and how to identify them would be the homework, or activity for all participants. The audience would be asked to tally how many of these types of plastics were found in their home, school/workplace and area of recreation. This would be ideal for students to get hands on and build awareness of how many items they have at their home, or in school.

A useful question section at the bottom of the activity is provided for students, other naturalists and anyone attending the presentation to use in efforts to minimize waste on a daily basis.

- Presentation starts with a slide of Jerry and Mouse in the classroom with the title on the chalkboard.

(Speaker will partake in the voice of two characters, the teacher and the student. The student will ask the questions, and the teacher will answer them accordingly. Presenter will pause the video after every time Little mouse asks a question to allow students an attempt to answer them.)

Video starts.

At 03 Seconds: Teacher Voice - "Today we are going to learn how we take care of our towns waste.

07 seconds South Lake Tahoe is a growing community. Along with its growing population, so grows its waste.

.14 seconds Student Voice - "What exactly is waste?"

Pause, allow students to attempt to answer.

.18 seconds Teacher - "Waste can be described as any item that is no longer needed, wanted or used. We have plenty of words to describe waste, like junk, debris, garbage, litter.

.29 seconds Student Voice - "Why would something that is deemed useless need management?"

Pause. Allow students to attempt to answer.

.34 seconds Teacher Voice - "Think about your home, every item that you buy, every item that you throw away. Items like food, books, furniture, gear, electronics, cleaning supplies among many others.

Now think about how many bags of trash you take out every week. Now imagine if all that stayed in your house?

.54 sec Teacher voice still - you would drown in your trash. Pause. Maybe discuss with students how this would look or feel.

"According to [The California Naturalist Handbook](#) "The average american generates approximately 30 pounds of trash per week." According to a recent search result there are about 22 thousand inhabitants in the South Lake Tahoe region.

1.10 min Student Voice - "woah... where does it go when the garbage truck comes to pick it up it?" Pause, allow students to attempt to answer.

1.16 min Teacher Voice - "Good question, most people do not think about garbage after it is tossed away. In the past garbage made its way to a landfill. But in more recent years California has been leading the way in more resourceful ways to manage waste, including recycling options and now composting.

1.33 min Student voice - "What's a landfill?"

Pause, allow students to attempt to answer.

1.36 min Teacher Voice - "A landfill is a specific space, selected and prepared to hold garbage away from neighborhoods and to keep our waste from hurting our environment. A big problem with landfills is they are filling up, and building new ones is posing an issue as people don't want

them in their neighborhoods. Some have also been “closed because of groundwater contamination.” as we read in our class handbook.

1.58 min teacher voice - Unseparated materials in landfills sit there for years. For example, most plastics will take at least 500-1000 years to decompose, food waste and organic materials degrading alongside plastics, metals, and anything else that we have discarded, emits a powerful greenhouse gas known as methane.

2.16 min teacher voice - Newer and select landfills collect methane and reuse it as energy as you can see in this diagram.

2.24 min Student Voice - “Wow. and our other options were..?”

2.29 min Teacher Voice - “Sorting our discarded materials will greatly help in the reduction of methane into our environment while minimizing the rate at which our landfills fill up.

For example: recycling. Recycling is the process of turning waste into a new material for use once more.

We also have composting, which is all decaying organic material that can be returned to our soils in the form of plant fertilizer.

2.51 min Student Voice - “So how do we, in South Lake Tahoe manage all this waste?”

2.56 min Teacher Voice - “South Lake Tahoe’s waste is managed by South Tahoe Refuse Co., Inc.! They are a family owned and operated business founded in 1962. This company has a solid waste agreement with the County of El Dorado, which details exactly what South Tahoe Refuse does for us.

South Tahoe Refuse currently offers several services for our community.

Commercial services

Residential services

Recycling options

Hazardous waste collection

And Green waste collection

3.23 min Student Voice - “How do they do all that?”

Pause, maybe ask students to brainstorm how they think things work at the facility.

3.27 min Teacher Voice - “I went to the facility myself to investigate that exact question. I had the pleasure of speaking with Jeanette Tillman, the sustainability manager. She gave me some great information!

South Tahoe Refuse has 144 employees, many who have been there for many years. So that is their workforce to take on such a large task.

I learned that on a peak day, during our tourist seasons, the refuse will collect 225 tons of garbage.

3.56 min Teacher voice - Demographic poses the largest impact, as Jeanette explained to me, since visitors tend to increase the use of single use plastics.”

4.05 min Teacher Voice - “A single use plastic is an item, made of plastic, that can serve its purpose only once before it is thrown away.”

4.13 min Teacher - South Tahoe is a single stream facility, which means they collect all items as

shown here, and run them through a conveyor belt in which waste is separated by categories. Although there is machinery for this, South Tahoe Refuse employs people, as “manual sorting is more effective”.

The diverted items are turned into bales weighing about 1500-2000 pounds and trucked off to the appropriate processing facility.

4.46 min teacher - “Here we have the conveyor belt, and following is an image of the bales.”

4.51 min - The hazardous waste materials are collected separately, from batteries to paints to electronics and are currently by appointment only.

5.26 min - The remaining items, are still sent to a landfill. South Tahoe Refuse has a big goal of diverting 100% of waste from landfills.”

5.36 min Student Voice - “ Is there anything I can do to help my community waste control efforts?”

5.41 min Teacher voice - “ As Jeanette said “Small efforts make huge impacts”. Yes there is, and our personal efforts will go a long way. First we need to minimize our waste. This means buy what you need, and when you buy notice the packaging, you can probably find the same item packaged without plastic. If not then try going without this item for a week, to see how you survive.

Refuse single use plastics any and all the time as this is one of the biggest issues with recycling materials. Most single use plastics can not be recycled.

6.14 min - We can also separate our waste at home, like using the blue bags, from the blue bag program provided by South Tahoe Refuse, just make sure your plastic containers are cleaned.

6.25 min - If you must buy something stored in a plastic container, look for the recycle symbol, it should have a number in it. This number will tell you what kind of plastic it is! Just so you know Plastics #1 and #2 are the most recyclable ones.

6.40 min - Buy things used, at thrift and consignment stores, or borrow items from family and friends when you can!”

6.48 min Student Voice - “I am glad you went to the Tahoe Refuse to investigate, I feel more knowledgeable on our efforts to keep our town clean, and our environment safe.”

Plastic Tally Activity

Date \_\_\_\_\_

Please tally as many times as you can see under its respective column.

Add the tallies for each type at the bottom at the end of the week.

	Plastic 1 (Soft drinks bottles, Fruit juice container, cooking oil.)	Plastic 2 (Milk jugs, cleaning agents, laundry detergents shampoo)	Plastic 3 (Trays for sweets, Plastic packaging)	Plastic 4 (shopping bags, most wrappings)	Plastic 5 (Furniture luggage, external car borders)	Plastic 6 (Toys, Hard packaging, cosmetic bags, refrigerator trays)	Plastic 7 (acrylic, polycarbonate, fiberglass, nylon)
At Home (Your room, the kitchen, the living room, garage, etc.)							
At School (Classroom, cafeteria)							
Any recreational site (Hike, playground, park, beach)							

Totals for 1 week							
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The previous chart shows only some examples of what you may find. Try to find the Recycle Symbol on items, which should have the number. This is how you will determine exactly what type of plastic it is.

If you are unsure of certain items, mark them below:

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Extra comments, What did you learn?

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### Helpful questions to Minimize Waste

Before making a purchase, ask yourself the following questions:

Do I need this?

How is this packaged?

If it is an online purchase, consider reaching out to the brand for this answer, many companies will respond within a day or two.

Can I find this product at home, at a friends, or through my family?

Can I make this myself?

Was this product wasteful in its creation process? (This will require further research into particular items and production processes.)

How did our species live without this product 100 years ago? And what has changed in society for us to need this item? (This one is fun to see how our culture has changed.)

## References:

California Naturalist Handbook.

Jeanette Tillman, Sustainability Manager at the South Tahoe Refuse.

## Trademark images:

Tom and Jerry images, MGM.

Pinky and the Brain, Warner Brothers Animation

## Image Credits:

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Image of green trash bin with black trash bag, .27 seconds, from Diane Amato, may 9, 2018.  
discover.rbcroyalbank.com

Image of cigarette litter, .28 seconds, from Paula DUhatschek/CBC News

Min 1.17 Tahoe Refuse trucks courtesy of Jeanette Tillman, at STR.

Min 1.45, Landfill diagram from "Effects of Landfill Sites" 2015. Dmohamed.weebly.com

Min 2.05 Landfill diagram from EPA.gov "Municipal Solid Waste Landfills

Min 2.31 Recycling image from freepik.com

Min 2.43 Plastic bottle to clothing diagram from earthhero.com "Whats the deal with rPET?"  
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