

# We Don't Live in a Vacuum

*Bringing conservation awareness to young children*



Photos by Lisa Anderson

By **Lisa Anderson**

**I**T IS DIFFICULT FOR STUDENTS, and many non-students, to understand how their actions can have detrimental environmental consequences. We live in a society where we get the things that we need — and want — without thinking about how our choices impact areas around us. For example, the clothes we wear could be destroying the rainforest. Rayon may seem like a greener choice than petroleum-based fabrics, but it is made from trees that grow in Brazil.<sup>1</sup> As educators, we can guide our students in understanding the effects of our decisions on raw resources at their origin points. Specifically, students can identify which materials are derived from rapidly-declining resources through unsustainable harvesting practices. This article will provide detailed examples of how educators can bring environmental stewardship into the formal education setting, from pre-kindergarten to grade eight.

## Starting local

Using your own local environment would be beneficial for students to begin making personal connections with nature. There are several ways that you can do this, such as taking advantage of your local farmers market and having farmers come in to speak with your class about the importance of buying local foods. In addition, be sure to focus on the animals found in your state. During my second year of teach-

ing kindergarten, I wanted to help my students understand the impact our choices have on the environment. We started by looking at pictures of cities, roads, and housing developments. This did not seem to faze them until I showed the animals, forests, creeks, rivers, and animal homes that were there before. Because we live in Ohio, I used native animals that my students are familiar with, and taught them why each animal is important in our local ecosystem. Especially the skunk. Skunks can benefit landowners because they eat moles, insects, and mice, and serve as prey for owls.

Another animal that the students learned about was the Beaver. Beavers are important animals because they build dams that reduce flooding and cleanse water. By building dams, Beavers enable the water table to rise, which then creates additional wetlands allowing for further biodiversity to flourish in that area. Once this unit was taught, students were given the opportunity to work as a team to build a dam across the classroom floor using sticks and leaves. They started to understand that there is a purpose for each animal in nature. Through this experience, they began to ask about different animals and why they are needed. If you teach older grades, this can be altered by using the inquiry or QUEST Process: question, understand, experiment, state your findings, then teach/test. These types of lessons prompt students to reflect on the purpose of nature and on their own daily choices, and help them to become part of a generation of world protectors.

## Palm oil sustainability

Once students have been introduced to their local environment, you can extend this lesson to include different ecosystems found around the world. The World Wildlife Fund for Nature <https://www.worldwildlife.org/> has a helpful website for this. Through this website, your class can adopt a species that is critically endangered, such as a Bornean or Sumatran Orangutan. These creatures are endangered due to the palm oil industry. In order for educators to inspire students to become advocates for the Earth, we need to pick environmental issues the students can relate to, such as ones involving food. Students may understand that food comes from the grocery store; however, we need to help them understand the environmental impacts of preparations of their favorite foods, such as Oreo cookies. Oreo cookies contains palm oil, which is harvested in Malaysia and Indonesia. In 2015, PepsiCo's goal was to have most of its product contain "sustainable" palm oil. Unfortunately, too many companies want palm oil seed for their products and this high demand works against the companies like PepsiCo who are trying to make their merchandise sustainable.

In order for students to begin thinking of the world as a whole and not as a resource to use and discard, there needs to be a balance of self-awareness and empathy. This can be done through conservation activities in the classroom. Using the orangutan species as an example of one of many animals that faces habitat loss daily, you can download the Cheyenne Mountain Zoo app on sustainable palm oil. Because I did not have tablets in my school, I downloaded the app on my phone and scanned the students' snacks daily to determine if they contained sustainable palm oil. When students bring in a snack such as Goldfish or pretzels, scan the barcode on the back of the product and the app will tell you if it came from a sustainable palm oil plantation. If it did not, then it will say this product cannot be found or it will say "unsustainable." In order for students to differentiate between "sustainable products" and "non-sustainable products" you can make a chart in your class. Divide the chart into two columns: sustainable and unsustainable. To help the students understand why they should avoid unsustainable palm oil, explain that orangutans eat the seeds from the fruit of the palm tree. This is the number one food source for orangutans in the rainforest. Since their habitat has been greatly reduced, the orangutans often find themselves nesting in the trees of the plantations, which results in heightened vulnerability and potentially-dire consequences. By bringing awareness of this unfortunate situation to the classroom, you will educate the students and community. This will encourage a change in their eating habits, for example, by purchasing food that is part of the Roundtable for Sustainable Palm Oil (RSPO). Lastly, there are many rescue centers in Borneo, such as the Borneo Orangutan Rescue, Orangutan Outreach, and Wildlife Orangutan Rescue. These resources provide pictures and palm oil information to help the global community stop relying on palm oil.



Charting sustainable and unsustainable products

## Lead a Gorilla campaign

Another animal that is on the brink of extinction is the Lowland Gorilla of Africa. Due to high demand for technology (cell phones, tablets, computers, etc.), companies such as Verizon, T-Mobile, and Samsung hire mining companies to mine the coltan that is found in Africa. These mining practices often cause habitat destruction for the Lowland Gorilla and have contributed to a fast decline in their population — but your class can help. In my school, I conducted a cell phone recycling collection, which allows the collection of old cell phones to be mailed to Eco-cell. Eco-cell is a company that will pay for free shipping when you collect cell phones so that the plastic and coltan can be recycled. When I did this for my school, it was a great success. People want to recycle their old electronics, but it can be difficult to find resources to do this. When conducting a cell phone/electronics drive, I included facts and information about the gorilla each day for students, faculty, and school staff. They learned how gorillas live, their daily activities, as well as how the young rely on their mothers. I showed pictures of coltan being mined, a practice that can force gorillas to lose their homes. I also made a poster saying "Gorillas on the Line, It's Time to Answer the Call." Providing your class or school with the opportunity to recycle could give your students an empowering feeling that they can be part of a positive change and may help them to think about how many electronic devices they (or their families) purchase and how this impacts the Lowland Gorillas.

## Reducing waste

Finally, if you do not feel comfortable hosting a cell phone drive, another option is using the lesson I made to bring recycling and waste awareness into your classroom. The lesson that I developed is on Nearpod. It has videos and activities to help students understand how to reduce their waste. You can use it with a smartboard and the students can connect to it through a tablet so they can be engaged through the lesson. It is also a great assessment tool to see how much the students have learned and what has stuck with them. When teaching this lesson, encourage students to recycle markers, as well as papers. Crayola has a recycling program where you can send back all dried markers. In addition, keep a chart in your classroom and mark how many students bring a reusable water bottle or reusable container for their snack or lunch. I did this with my kindergarten class and it is amazing to see the students change their behavior when they see everyone doing the same thing. The expanded version of this lesson is included in the appendix.

It is our responsibility to bring conservation education into the classroom. Most students are not shown ways to live sustainably. In being educators, we have the rare chance to look at something and turn it into an engaging lesson that will stick with us and our students through repetition and practice. Taking advantage of the possible learning opportunities that nature provides us and sharing them with our students is one of the ways that we can encourage them to protect the Earth and its species for generations to come.

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### Endnote:

1. Burn, M. J., Mayle, F. E., & Killeen, T. J. (2010). Pollen-based differentiation of Amazonian rainforest communities and implications for lowland palaeoecology in tropical South America. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 295(1-2), 1-18.

## Appendix A: Nearpod Lesson Plan: Become a Waste-Free Classroom

The following lesson plan is for teachers of grades K–3. This plan will provide directions on how to execute the Nearpod Lesson, How to Become a Waste-Free Classroom. Link: <https://share.nearpod.com/riRdLHJ2JL>

**Objective:** Students will understand the benefits of recycling. Students will reflect on their choices and their impacts on the environment.

**Materials:** Tablets, interactive board connected to the teacher's computer

**Overview and Purpose:** This Nearpod lesson is an online interactive lesson that has the ability to be taught through students' tablets. Teachers can use either a smartboard or Promethean interactive panel. If the school has neither, then using a projector hooked to the computer will work, but the teacher will have to change the slides manually through the computer. This lesson illustrates the differences between recycling and throwing away trash.

### Day 1: Introduction

Before executing the Nearpod Lesson, be sure to have a class lesson on the garbage process. The importance of starting with the garbage process is to help the students understand that there is no environmentally-appropriate way to get rid of our waste. One idea is taking a shovel and some garbage out to a green space. Dig a hole, throw the garbage in, and bury it. This will catch the attention of the students and will help the teacher start the lesson off with students interested.

**Pre-Assessment:** Make a KWL chart. Have the students list out what they know about the garbage process, what they want to know, and what they learned.

**Activities:** Begin with reading the Book *I STINK!*, which illustrates the garbage process. Following this reading, be sure to have a discussion on what was taught in the book. Ask questions such as: Who throws things away? Why do we throw things away? Is throwing things away good or bad? When the latter question is asked, have the students write the word "yes" or "no" on a post-it note and stick it to the poster board so they can see each other's answers. There are likely going to be more "yes" answers than "no." Next, ask which is better, recycling or throwing something away. They may not know what recycling is; if so, explain that it involves using something over again. Explain that they are going to practice recycling and reusing materials. This will help the students transition into the unit. Then, introduce the Non-Waste Challenge.

**Non-Waste Challenge Explanation:** For the next week, encourage the students to bring their snacks in reusable containers. Explain that every day they are going to keep track of how much waste they make by putting an "X" on a chart if they did not bring a reusable container or a check mark if they did. This will establish the foundation for the unit. The students will quickly learn that bringing in a reusable container is a sustainable choice. Every day, have the students count how many reusable containers there are versus the materials that are in the landfill pile. Continue to remind students why using a container is environmentally friendly.

## Day 2: Nearpod Lesson

In this lesson, many of the words used are appropriate for students who are ending kindergarten and going into first-grade. However, they may need help reading the words “recycle” and “garbage.” I recommend that if this lesson is being executed in fall, read everything to the students since they are new to kindergarten. If the lesson is being taught in the spring, students should be able to read most of the words. However, further explanation of the objective will be needed to clarify what they are to do.

**Procedure:** The first slide of the Nearpod lesson is a pre-assessment. Students will be asked if they know what recycling means. They are to click either “yes” or “no” and then submit their answer. Each answer will pop-up so that the teacher can quickly assess the answers.

After answers are submitted, students will share their prior knowledge about the garbage or recycling process. Ask them if they know what the difference is between the two.

**Details:** In a plastic bag, dump out all of the snack wrappers that you have collected from the students thus far. Help them understand that when non-reusable trash is thrown away, it is no different than taking it and burying it in your own backyard.

Show students the video *Where does garbage go?* This video is long, so be sure to stop it throughout and check comprehension. Discuss the video after it is shown and document knowledge gained. Ask three simple questions that can be answered through a thumbs-up-thumbs-down assessment to assess student comprehension. By stopping the two videos throughout the lesson, you will be able to keep the students’ attention. They will lose focus if things are not explained. In addition, before you show each video, give the students a job to listen for one new thing that they learn during the video. This will make them feel responsible for their learning and increase their comprehension and self-reflection.

Then, have students draw on their tablet what they think it means to throw something away and have them explain their picture to the class.

Next, show the recycling video and have the students complete the same process. Stop the video throughout and have a quick discussion to check comprehension. At the end of the video complete a thumbs-up-thumbs-down assessment. Then, have the students draw what it means to recycle.

The next slide asks the children to compare and contrast throwing something away versus recycling. You can have them either type out their sentences or, for students who may need help with spelling and word formation, provide their answers verbally.

This slide will flow into students’ reflecting on how they can decrease their trash production. Make sure to explain that the word “decrease” means to lower and “trash production” refers to what they use. You may need to explain this in layperson’s terms to help with students’ understanding.

Lastly, have the students break up into small groups to develop ways to reduce their own trash.

**Assessment:** The last slide is a poll asking the students if they know what recycling means. The results will be displayed on the board for assessment of understanding.

**Closing:** Close the lesson by having the students share one idea that they learned. Show them where the recycling bin is in the classroom to provide them with the opportunity to change their habits.

