

Create Plenty's International Plastic Quilt Project:
Introductory Lesson and Teaching Modules

Our goal over the course of the modules is to have students become aware of the higher importance of refusing and reducing over recycling so this will involve dispelling myths and misconceptions. Rather than forcing the information on students we will slowly peel away their views of the world.

This document is meant to be a guideline for any schedule, based on an average of 8 class times of approximately 75 minutes each. The International Plastic Quilt Project has three main parts: Education, Art and Exhibition. Three modules are based on Education, for better understanding about plastic pollution, and five on Art, so that students have a good understanding of how to use this type of "trash" as art supply in a way they can be proud to Exhibit in a public show. Please mix and match based on the needs of your student group and the time available.

Getting to Know the Students and Introduce the Project

Before beginning the Modules below, here are suggestions for those going into a class for the first time as a visitor and/or introducing the project to students. It is also a chance to measure prior learning with regards to environmental education.

Nuts and Bolts: Tell the students the structure of the class, what is expected of them and how they are expected to behave. This may vary from school to school and from instructor to instructor. You may have specific instructions from your site. Be sure to clean up when you are done (have students help with this) and leave room exactly as you found it. You can start out by having students look around the room and see how things are placed (chairs on table, shades closed, etc.).

Explain a little of the history of Leave No Plastic Behind/International Plastic Quilt Project/Create Plenty and its mission to educate people about what we throw away, where it goes, and how we can keep from making more trash. You don't need to stress the plastic part yet, that is revealed in the lessons. In other words, we want students to figure it out themselves even though the names are a give away.

Things you can touch on:

The project has been going on for 5 years.

We will learn about what we throw away and where it goes.

We are going to produce art out of things we might otherwise throw away/recycle.

There will be an actual gallery show in May with other schools represented.

You (the students) will educate and raise awareness of what we throw away and inspire others to produce less trash.

Get a sense of what kids know about conserving the environment.

They can write a Before (and later an After) statement. They can also draw a picture to illustrate their answer, or in place of writing, if they want to.

Some things you can ask are:

What do you think happens to trash?
Where does trash go after you throw it away?
Where does trash come from?
How are animals affected by trash? (specific animals, or animals in general)

Bring examples of past projects to give kids ideas and excite interest.

You can show the trailer from “Bag It” if the room is so equipped.

Log on to the createplenty.org web site.
Click on International Plastic Quilt
On drop down menu, click on For Educators
Under Volunteer Materials, click on Bag It
Play Trailer. A good stopping point is about midway through when the screen over says “There is no such thing as ‘away’”.

Hands on activity for the first lesson:

Make name tags using plastic lids with holes punched in using a hammer and nail and strung on a string. Have the kids collage their names using letters and pictures cut from magazines. Glue and coat with modpodge. Keep them in the class for each week, or at least until you learn all their names. Variation: Kids can collect beads on their necklace as merit badges throughout the course for completing assignments or just being good listeners/learners/contributors/participants.

Games for Any Lesson:

1. Create Plenty plastic bingo (see Module Resources folder). Students can ask each other if they participate in any of these plastic-reducing strategies. Play this game before the project and after the project to measure how they may

2. Find and guess the trash: Divide students into groups of 3 to 5 each.

One child from each group is blind folded. This is a race between the teams.

A piece of trash is put somewhere not too complicated. This game is great when played outside, but with modifications you can make it work indoors.

The team members who are not blindfolded give directions to the blindfolded team member. Example: go left, turn, walk, etc. (They take turns giving one direction each).

The first team to find and identify their trash wins.

3. Look around the room and identify single-use plastic (or any single-use or disposable objects) and plastic objects meant to last a while. Have a “Magic” object (you chose one ahead of time and who ever find it wins a prize. (note: this also works well at clean up time. Have a “magic” piece of trash and who ever picks it up wins a prize.

Module 1: Natural Resources

Natural Resources- materials and energy that are essential or useful to humans.

The introductory lesson establishes what the students already know about natural resources. Our goal over the course of the modules is to have students become aware of the higher importance of refusing and reducing over recycling so this will involve dispelling myths and misconceptions. Rather than forcing the information on students we will slowly peel away their views of the world.

Begin by having students write a response to a challenge statement on a Likert scale. Here are some possible ones to use depending on how much prior knowledge the students have. **Choose only one of these statements for your class:**

To what extent do you agree or disagree with the following statement

Agree Somewhat Agree Somewhat Disagree Disagree

- 1. The same amount of water is on earth today as when dinosaurs lived.**
- 2. I know where my food comes from.**
- 3. I know what happens to stuff I throw in the garbage.**

After students write their responses you may wish to have some students share aloud their answers. This should naturally lead into a discussion about natural resources both renewable and nonrenewable. You can use giant chart paper on the wall to indicate non renewable (minerals, oil, coal and other fossil fuels) and renewable resources (Land, Air, Water, Soil, Plants, Wind) These charts can be used in many ways and could stay up for the duration of the lessons to come.

Here are follow up activities to the above challenge statements. The supporting documents with instructions for each activity can be found in the Module 1 Folder or at the links provided.

1a. **“Drop in the Bucket Activity.pdf” (Module 1 folder)** *Activity 5.1 CA Coastal Commission’s Waves, Wetlands and Watersheds Curriculum.* This demonstrates how much clean available water there is on earth. Use as a demo for younger students or have students work in groups and do it themselves with older students.

1b. **Water necklace.** Prepare small tube macaroni that has been dyed blue, green , red. Use 98 green to represent salty oceans, 2 blue for ice and underground water, 1 red for fresh available water. Avoid using plastic beads and lanyard. We want to model natural art supplies.

2a. **“Where in the U.S. did my food come from.pdf” (Module 1 folder)** *Oregon Agriculture in the Classroom Foundation*

2b. **Food mobile.** Students create a mobile that shows where their breakfast, or favorite food comes from. For instance: pizza would show pizza at the top and then dangling

from the hanger mobile would be wheat, sauce, cheese then connected to each of those would be another piece of paper showing plant, plant, animal.

2c. <http://tiki.oneworld.net/food/food4.html>

2d. How much of the earth's surface is used to grow food for the people of the world?
<http://www.sustainabilitykit.net.au/pdf/ApplesToEarth.pdf>

3a. **Litter Over Time.** Students guess how long it takes for certain items to break down when exposed to light and air.

3b. **“Startling Statements” (Module 1 folder)** *The Family Ecology Guide.* Helps students understand the size of our waste disposal problem. 17 questions which can be used taped to students backs and they go around the room trying to get best guesses from each other. Collect 5 guesses and then share the answers.

Module 2: Ecological Footprint

Ecological Footprint- amount of biologically productive land and water needed to indefinitely supply the people in a particular country or area with renewable resources AND to absorb and recycle the wastes and pollution produced by such resource use.

In this module students will examine their personal use of resources by calculating their ecological footprint. They will begin to understand what activities can reduce their footprint and how this ties to the type of foods they eat (meat vs. vegetarian), whether their foods are packaged or more direct from farms, and that buying less produces less waste. Recycling will come up as a means to reduce their footprint and while it is our intention to encourage reduce and reuse first, we won't be exploring this till Module 3 so, accept all responses about recycling in a still positive way.

Send students home with a **Project Description/Plastic request letter (Spanish and English versions for adaptation are in the Module Resources folder)** explaining the project and a requesting that students bring a bag of plastic to school to use as part of their after school class. Attach the letter to the bag so they know they can fill it, to limit the amount of plastic they brought.

Middle school lesson plan “**ecological_footprint_lesson.doc**” (Module 2 folder)

K-6 Youth Calculator. <http://calc.zerofootprint.net/youth/>

Middle school. What's your clothing's footprint?

<http://planetgreen.discovery.com/games-quizzes/clothing-carbon-footprint-quiz/index.html>

9-12 grade: calculate their ecological footprint using online website.

<http://www.classroomearth.org/node/184>

Sustainability Bingo. <http://www.sustainabilitykit.net.au/pdf/Sustainable%20bingo.pdf>

Module 3: Recycling Myths

Recycling: reprocessing a resource so that it can be made into new products

Primary recycling: materials are recycled into new products of the same type. Aluminum cans recycled back into aluminum cans

Secondary Recycling or Downcycling: materials are converted into different products. Plastic bags are made into fibers for fleece jackets. Milk jugs are made into deck boards. In this module students will become educated on which single use disposable plastics can be “recycled”, what takes place when plastics are recycled (shipped overseas for processing) and how very little is actually getting recycled and how it damages the ocean ecosystem. It is best to avoid these items in the first place.

Challenge Statement:

Once again students are asked to respond to a question before beginning the activities.

To what extent do you agree or disagree with the following statement

Agree Somewhat Agree Somewhat Disagree Disagree

If a plastic has a chasing arrow symbol on it, it can be recycled. Have students share ideas in pairs and then take any volunteers to share aloud.

Activity: Plastic Sorting.

Plastic waste will be scattered around the room. Try to use wrappers and items both found at school and at home (candy wrappers, bread bags, dry cleaning bags, margarine tubs, Styrofoam, plastic shopping bags, shampoo bottles, straws, CD cases) Ensure you have plastics with symbols 1-7 and some with no numbers at all.

Have 7 bags with a recycling symbol with the number on it at front of room. Have students “clean up the room” and sort the plastic correctly. There will be some items that will not have numbers so students might have to think about where to put them. Ask them to hold onto these and go over these first. It will be a good segway to the discussion about plastics.

Now go through each bag and have the students try to identify the type of plastic.

A complete description is found in CA Wetlands, Watershed document page 116, “Plastics and Their Uses” (NOTE: This page is listed as page 122 in the preview menu).

#7 is PLA plastics (corn plastics) and may be omitted if not available

Ask students what they think will happen when these plastics are “recycled.”

Introduce the terms *primary recycling* and *secondary recycling*, which is also known as *down-cycling*.

Watch the [Algalita Movie](#) (10 mins.) to learn more about where plastics go.

Open up for Q & A and write down questions students have. These may be used for further extensions.

Module 4: Plastic Free Challenge

Watch the [Story of a Plastic Bottle](#) (8 mins.). Students will take a pledge to go plastic free for specified period. They should write down 3-5 actions that they will take to do this (bring a waste free lunch- be specific, give up bottled water, buy in bulk, shop at the farmers market, bring their own bag,....)

What do you think the biggest challenge will be?

If you have used the footprint above from Module 2 then you could have students consider what a plastic footprint might be.

Play Create Plenty's Plastic-free Bingo "[createplenty_bingo.pdf](#)" (**Module 4 folder**).

Module 5: Plastic as Art Material

Students will explore various ways to manipulate plastic from straws to "plarn" (which is yarn made by turning plastic bags into a continuous strip).

Watch the [Create Plenty IPQP video](#) (2 mins.).

Module 6: Quilt Square Planning

Module 7: Work on Quilt Square

Module 8: Complete Quilt Square/Reflective Statement

Bonus Module 9: Preventing Pollution at the Source

Using page 138 "**Activity CA4: Preventing Pollution at the Source**" in the **CA Wetlands, Watershed document** (NOTE: This page is listed as page 144 in the preview menu).

From taking part in previous activities in this chapter, students now are familiar with how debris can pile up on the beaches. Now they will develop solutions to the problem of marine pollution.