

Kindergarten Science Docent Unit #5

Recycle, Reduce, and Reuse

1 Hour

Objective: To expand the students' knowledge of how to make a difference in protecting their earth.

Introduction: (10 minutes)

Garbage! Garbage! Garbage! What a waste! (Pour out the man-made garbage from the brown grocery bag onto the floor). Instead of being thrown away, most of the waste seen here could be recycled, reused, or reduced. (Show garbage poster). This is an example of the items you would find in one week of garbage. We could recycle about 3/4ths of our household waste. Paper, cardboard, plastics, metal, glass, and old clothes can all be recycled. Food waste is biodegradable and can be reused for plant food if put into a compost. (Show the recycling sign on the bottom of yogurt container).

Landfills: Who can tell me where our garbage goes? (Call on children).

Our waste goes to landfills, just like this picture in the book. What can we

do to help limit our waste from filling up our precious earth? (Call on children).

Read “Reduce, Reuse, Recycle”

Remember the 3 R’s: Reduce, Recycle, and Reuse. (Write on board).

All three are good ways to help our planet. It saves raw materials, energy, and land that might otherwise be used as landfill. It also helps reduce pollution in the air that we breathe. There are 2 ways that we all can recycle:

- 1. Bins:** You can set-up bins labeled paper, plastic, aluminum, and glass. When the bins are full, you can take the recyclables to a nearby recycling center.
- 2. Blue Bags:** Here is blue bag for recycling. You can buy these at any grocery store. It is so easy, all you do is put the blue bag in the kitchen and throw all of your recyclables into the blue bag. When it gets full, all you have to do is to throw it into your garbage can. The garbage man or woman picks it up with the other garbage and takes it to the Roseville Materials Recovery Plant.

Materials: brown bag with garbage, garbage poster, book with the landfill picture and blue bag

Small Group Activity 1: Is It Biodegradable? Will it Rot?

Review with the students: Biodegradable means a material that decomposes or breaks down, (crumble dirt) and is naturally recycled back into the earth. Let's predict (guess) what we think is biodegradable in these glass jars.

Decomposition Jars: These jars contain different items such as: a leaf, banana peel, toothpicks, plastic wrap, paperclip and newspaper. Each of these items has been buried in these jars for about 2 weeks. Have the children guess if each of the items is biodegradable or not. Now, I need some volunteers to pull out the items. (They can dump the entire contents out onto a piece of paper or plastic on top of the cart- one at a time).

What Began to Decay: The natural garbage (leaf, banana peel, and toothpicks) will begin to decompose or may have rotted all together because they are biodegradable. The man-made items (paperclip, plastic wrap, paper) do not decompose and will not have changed. Luckily, we can recycle most of our non-biodegradable garbage so that it can be used again.

Decomposition Chart: Do you think that plastic or glass will ever decay?

Let's find out how long it takes. (Hold up chart. Read the chart to the children).

Materials: biodegradable chart, decomposition jars (6) with items: leaf, banana peel, toothpicks, paperclip, plastic wrap, and newspaper. Clump of dirt.

Prep: The science docent will prepare the biodegradable jars 2 to 3 weeks in advance.

Small Group Activity 2: Nature's Recycling; Food Web

Review with the students: Let's take a look at nature's garbage. (Shake the empty brown bag upside down in front of the kids). Here's nature's waste! Wait! Where is it? There is no waste in nature. Have you ever noticed that you never see huge piles of dead trees or animals in woodlands? This is because natural materials such as plants, animals, fruits, and vegetables quickly decompose (breakdown) and are recycled back into nature. These materials are biodegradable.

Decomposers: Why do you think there are millions of insects and bugs?

They have a very important job to do. Insects are decomposers, so are

worms, fungi, and microscopic bacteria. They decompose nature's waste, such as leaves, fruits, vegetables, dead animals, and trees. They are a crucial part of a food web, which is several food chains linked together.

Food Web: (Show the nature's recycling poster and read each stage in nature's recycling). I need 6 volunteers to come up and be a part of this food web. I need an insect, fungi, oak tree, acorn, squirrel, and a dead squirrel. Each of you needs to wear the appropriate picture and hold a chain in each hand. Notice how you have to stand in a circle. That's because the cycle is continuous and never ends. Now, if I tap you on the shoulder, I want you to drop your chains and let's see what happens. If just one part of the chain falls apart (becomes extinct), the entire circle falls apart.

(You can repeat this activity with other students in the group so everyone can participate).

Balance of Nature: If there weren't insects, the dead animals and the trees wouldn't decompose. Then, there wouldn't be nutrients in the ground for the young trees and plants to grow. If there weren't plants and trees, then there wouldn't be food for the animals. Then what would happen?

Eventually, we might all become extinct. We are all dependent upon each other for our existence.

Materials: empty brown bag, nature's recycling poster, 6 nature cards, and links

Small Group Activity 3: The 3 R's Relay Races (This is an outdoor activity if the weather allows).

(Explain to the students): You are going to run reduce, reuse, and recycle relay races. Everything in the brown bags is recyclable. We are going to divide into 4 teams lined up behind each other. The first person of each team takes 1 item from the brown bag and runs to the fence to drop the item into the blue bag, and then her /she runs back to his/her team and gets in the back of the line. Keep going until there are no more items in the brown bag.

Materials: glass, plastic, aluminum, and paper posters, 4 brown bags with recycling items and 4 blue bags

RECAP: (5 minutes)

1. Read Poem attached to the end of this lesson; handout copy to each student to take home
2. What can we all do to help save our Earth?

I Can Make a Difference

The Earth is my home, and it is special to me.
I want to protect it and care for its needs.
The Earth sure could use my two helping hands
To safeguard the water, the air, and the land.

By putting my trash where it should be,
I'll keep the Earth pretty for others to see.
By keeping pollution out of the water,
I can save animals like the Sea Otter.

By collecting newspapers, bottles, and cans,
I can recycle instead of filling the land.
Conserving water is another good deed.
I'll carefully use just the water I need.

To show the Earth how much I care,
I can plant a tree where the land is bare.
By walking and car-pooling when I move about,
I will save energy, which also helps out.

By trying each day to show that I care,
I will clean up the land, the water and air.
With helping hands and good common sense,
I truly can make a great difference!