

An Edible Landfill

Objective:

To discover how a landfill works by creating one that we can eat.

Background Information:

This activity teaches students about what happens to the garbage that we can not recycle. Before teaching this activity, it is helpful to find pictures of real landfills on the web to show the students. If you live in the Seattle area, an appropriate website is <http://www.metrokc.gov/dnr/kidsweb/landfill.htm>. The Department of Natural Resources says the Cedar Hills Landfill outside of Seattle is lined with a clay and plastic layer beneath the garbage. This lining prevents the contamination of ground water by the garbage. Pipes are at the bottom of the landfill to collect rain that filters in with the garbage. Rainwater combined with liquid garbage is called the leachate. Each day, garbage trucks dump approximately 2,000 tons of garbage into the landfill. Afterwards, the garbage is compacted and six inches of soil is placed on top of the newest layer of garbage. Tomorrow, the cycle begins again. In this lesson the students will create an edible landfill. Be sure to ask the students ahead of time if they are allergic to any of the ingredients. Also, be sure to buy no-bake vanilla pudding instead of the type that you have to bake. This activity was revised from the lesson plan found on the website: <http://www.illinoisbiz.biz/com/recycling/kids/Lessons/ediblelandfill.pdf>.

Materials:

1 Graham Cracker Pie Crust for each group of 5
Licorice Whips
Fruit Roll-Ups
Nuts
Raisins
M&Ms or other candy
Vanilla Pudding
Chocolate Pudding
Cups
Spoons
Bowls
Newspaper
Forks
Plates

Preparation:

1. Buy the ingredients listed in the materials section.
2. If you buy the no-bake instant pudding, make the pudding with the students as part of this activity. You will likely also have to buy milk and other ingredients for this pudding.
3. Cover the work surface with newspaper.
4. Bring serving utensils and paper plates so the students can eat their edible landfills.

5. Visit the website listed in the “Background Information” section. Print out appropriate pictures.

Procedure:

1. Divide students up into groups of five.
2. Place a graham cracker pie crust in front of each group. Explain that this crust represents the hole in the ground for the landfill.
3. Put a fruit roll up on top of the pie crust. Ask students if they have any idea what this represents? (It is the plastic lining in a landfill that prevents the garbage from contaminating the groundwater).
4. Tell students to lace licorice whips along the bottom of the crust. Before any trash can go in, a landfill hole is lined with pipes to remove the liquids from the garbage and decomposition. The licorice is our version of the pipes!
5. Mix some “garbage” made of nuts, raisins, M&Ms, etc. into the vanilla pudding to make your trash.
6. Cover the bottom of the crust with this garbage.
7. Now cover the vanilla pudding with chocolate pudding. This represents the layer of dirt that is placed upon the garbage each day.
8. Make as many alternating pudding layers as you can until the crust is full. Make sure that the top is a chocolate pudding dirt layer.
9. Ask students “What do you think happens to the garbage that is buried in a landfill?” Sadly, the garbage that we bury never goes away completely. Not much decomposition occurs because the air and moisture needed by garbage-chewing microorganisms are sealed out. Many landfills become parks, ski hills, and golf courses.

Source:

<http://www.metrokc.gov/dnr/kidsweb/landfill.htm>

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