Buddy's Bones

What happens when we bury trash?

How long does it take to decay?

Utah Core Objectives

Second Grade
Std. 1 Obj 1 Develop language through listening and speaking

Std. 3 Students will develop an understanding of their environment

Objectives
Students will understand the concept of decay as it applies to the Summit County landfill and the environment; why it's important to recycle.

Students will be able to:
- Use the scientific thought process to predict and interpret a scientific experiment involving biodegradable and non biodegradable materials in a landfill
- Explain the word decay
- Know the lifespan of two recyclable materials
- Understand the basic concepts and reasons for composting and recycling

Materials Needed:
- Assorted recyclables and kitchen scraps
- Medical gloves
- Magnifying glasses
- Copies of the handout for each student, double sided (p. A & B)

Time
- 30 minutes

For more information contact:
Recycle Utah
1951 Woodbine Way
PO Box 682998
Park City, UT. 84068
(435) 649-9698
www.recycleutah.org

Prior to the class

In the Fall:
Bury plastic bottles, aluminum cans, shredded newspaper and organic items (lettuce, carrots & egg shells). Make a record of the kitchen scraps. Take pictures of the children with their shovels, or perhaps with a mascot. At Recycle Utah, we have a dog named Buddy who loves to bury his bone. Why does Buddy bury his bone? To keep it safe. Bones last a long time underground, so does plastic and aluminum —1000 years.

In the Spring:
Un-earth the sample and place in clear plastic box for all classes to examine. Use the scientific process to lead children to understand the concept of decay and the basic concepts behind composting and recycling.

Springtime Discussion

Scientific Process
Hypothesis: What do you think will happen?
Observation: Tell what you see.
Evaluate – Did you find what you expected to find?.

- **Distribute medical gloves and magnifying glasses, if students will handle samples of the material.**

- continued next page-

Buddy's Bones

- Continued -

Learning Points

Decay is Nature's way of making more soil and food for plants, insects, worms and animals.

Backyard composting is a way of making new soil out of yourkitchen scraps, shredded newspaper and leaves.

Recycling is important because aluminum cans and plastic bottles last for 1000 years.

We can make new products out of used aluminum cans and plastic

This lesson plan made possible by a grant from The Lund Foundation.

Instructions

Show the pictures of Buddy burying his bone or kids burying the trash. In the large group, ask – What do you think happens to trash when it is buried? What does the word "decay" mean?

Distribute a handout of the items that were buried or replicate it on the white board (see handout in this packet). Review the words as you go along. Have children gather round the box to make their observations. Validate correct observations and summarize on the white board. Allow 10 minutes.

Final Activity

Discuss decay — The process of decay is Nature's way of making more soil and food for plants, insects, worms and animals. Back yard composting is a way of making new soil out of your kitchen scraps and shredded newspaper and leaves. How many of you have backyard composters? What do you put in them? What do you get from your composter?

Discuss recycling – Certain items don't break down for a long time. Bones, aluminum cans, and plastic bottles can last a thousand years. Our way of recycling the natural resources of the Earth is to collect them and make new products out of them.

Final Message: We need to recycle aluminum and plastic and make them into new products. If we put them in the trash they will be buried in the landfill where they will last a long time, but won't be good to anybody.

Homework: Have students take their handouts home and talk about what they learned about composting and recycling.

Helpful definitions

- Decay — to rot, to break down

Extension Activities - see next page.

Buddy's Bones

- Continued -

Extension Activities

Language Arts: Have students copy the words they have learned on ruled paper or on the worksheet itself.

Composting: Establish a school composter where students can put kitchen scraps, apple cores and fruit peelings. For instructions on how to compost go to

Spinach Experiment: Purchase a bag of "ready to eat" spinach and hold it for a week to ten days. The day before the your science experiment, purchase a fresh bag of spinach. Give each student a sample of leaves from each bag. Have students compare the samples and discuss their observations:

- Color
- Texture
- Thickness of leaves
- Smell
- Ability to be handled (without breaking)

Put a batch of the spinach leaves in a cup or bowl of water. What happens to the water? A: It turns green. Little bits break down and float or seem to dissolve. What do you think happens to leaves in Nature when it rains or when snow melts?

Forest Walk: Take students on a walk in the forest. Examine the dirt on the forest floor or path. Examine old logs and moist areas. Draw conclusions about Nature's "composting."

Visit the Recycling Center & the Landfill: Take students on a field trip to the recycling center and the landfill. Discuss the importance of recycling and the fact that the landfill is getting full.

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Why Does Buddy Bury His Bone?

What happened to the:

	Decay		
	A lot	A little	None
 Lettuce			
 Carrot Peel			
 Egg shells			
 Dog Bone			
 Aluminum can			
 Plastic bottle			
Newspaper			

It's Easy to Start Composting

Composting is the ultimate, responsible way to recycle. Compost is a mix of carbon-rich (brown) and nitrogen-rich (green) materials. It's Nature's way of improving the soil structure in your garden.

1. Choose a sunny to partly sunny site near a source of water.
2. Add a 6 to 12-inch layer of brown materials to a commercial or home-made bin, then add a comparable layer of green materials.
3. Add a shovel of earth—soil from your garden. This contains the micro-organisms and worms that will help decomposition.
4. Continue layering until the pile is at least 3 feet high and 3 feet wide.
5. Add water to moisten the mixture–compost should always be as damp as a wrung-out sponge.
6. Turn the pile with a garden fork, mixing the greens and browns together and aerating them.
7. If you aren't strong enough to turn the pile, use a poker to create a series of aeration holes.
8. As they accumulate, continue adding green and brown materials in roughly equal parts.
9. Turn the compost with each new addition and add water as necessary. A well-aerated pile of mixed greens and browns should not smell.

Brown Materials
Fallen leaves
Sawdust
Shredded newspaper
Branches
Small twigs

Green Materials
Grass clippings (free of pesticides)
Fruit & vegetable scraps
Houseplant trimmings
Soft prunings from the garden
Egg shells
Spent flowers & plants
Coffee grounds & tea bags

NO Animal products (meat, bones, fats, dairy) anything treated with herbicides or pesticides, stones, metal, cardboard, glass, diseased plants, large branches or wood chips, pieces of eucalyptus, red cedar or black walnut trees, animal manure.