

Lesson Plan: Grow your Soil and Feed your Dirt—Can Dirt Die?

Created for Jane Goodall's Roots and Shoots OK Green Friends Chapter by Sue Tarr ttarr@sbcglobal.net

Objectives:

Raise awareness that we can kill dirt and the consequences of poisoning our soil.

Encourage composting to grow healthy dirt.

Raise awareness of items found in the home and organic products that can be bought that improve soil.

Materials needed:

Samples in containers of substances found in and around your home that can feed dirt such as, ground eggshells, table scraps that are composted, coffee grounds, shredded leaves, composted manure, hair clippings, sawdust and wood chips, paper, straw, composted grass clippings and weeds.

4 samples of different types of soils in bins or buckets; include a bucket of worm castings.

4 small seedling samples of green beans grown in each soil.

2 small seedling samples of dirt soaked in oil or gasoline that you have tried to grow green bean seeds in.

Samples of Organic Products in bottles or containers that you can purchase to feed your soil such as Liquid Seaweed, Liquid Fish Emulsion, Manure tea, EM (Effective Micro-organisms), Worm Castings, Bone Meal, Cotton seed compost, Blood Meal, Ground oyster shell, Calcium, Epsom Salts, Bio-Dynamic preparations and Azomite.

Attached flyers: Easy Composting Guide, Jane Goodall's Roots and Shoots Green Friends Chapter 5 R's Guide for Caring for Nature and additional books and web sites to explore.

Captivating Moment:

"Can you tell good soil by feeling, smelling and looking at it?"

"Smell, feel and look at these containers of soil and stand by the one you think would grow the best plants."

Show students plants grown in each soil.

Show students plants you tried to grow in oil and gas soaked soil.

Discussion:

Ask, "Can dirt die? Can you kill soil? Will seeds grow in poor soil?"

"How can we grow dirt and feed soil?" Ask students for ideas. Your questions are designed to help pull answers from students.

"What do you have around the house that will feed your soil?"

"Can you tell what is in these containers that you can find at home that will feed your soil?"

"Be a detective. See, sniff and feel—The answers are inside you!"

"What are some natural products you can buy that help feed dirt?"

"Can you tell what is in these containers that will feed your soil?"

"Sniff and look."

Compost is a farmers "Black Gold"

"How would you make compost?"

Students discuss how to create compost?

Give student easy composting handout after discussion.

Culmination:

Have you ever thought about dirt this way before? How can you tell if soil is healthy?

"Are we wasting a lot of things at home that could feed our soil? How can we keep from spoiling soil?"

A plant's health is affected by the soil it grows in. How is our health affected by the food we eat?

Opportunities for further independent experience:

"Are you interested in creating a compost pile at school or at home?"

"What else do you want to know about soil and feeding dirt? Composting? Organic products?"

COMPOSTING MADE EASY – Brown and Green
Created by Jane Goodall's Roots and Shoots OK Green Friends Chapter
OKGreenFriends@sbcglobal.net

Ingredients:

BROWN (HIGH CARBON)

Leaves(Shred them by mowing)

Straw

Paper

Sawdust and woodchips

Ground egg shells

Short hair clippings(barber shops)

(the smaller the pieces the better)

GREEN (HIGH NITROGEN)

Food scraps

Grass and plant and weed clippings.

Coffee grounds

Rotted manure

(if greens are not very fresh add small amount of blood meal or cottonseed or soybean meal or poultry manure)(use 5 parts fibrous matter to one part animal manure)

Recipe:

1.Begin with a 4-6 inch brown base of coarser twigs and straw.

2. Add a 4 to 6 inch base of green

3. Keep alternating brown and green moistening each layer thoroughly until the pile or bin is full. Wet should be that of a dried out sponge. Lots of leaves require more water.

4. The minimum amount of material needed to reach the correct composting temperature range is 1 cubic yard; Stacked material must be at least 3 feet high. Do not exceed 6 feet in width.

When the pile is within these dimensions, cover the bin with cardboard or plastic. In 4 to 7 days temperature should be 120 to 160 degrees.

5. When the temperature begins to drop, take materials from the top and edges of the pile and place them at the base and middle of the new pile. Material from the center of the first pile should be on the top and edges of the new pile.

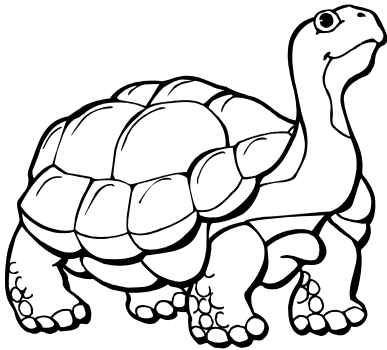
6. After 7 days, repeat process to third bin. In another week compost should be ready to use as a top dressing around established plants. It will still be too hot to put on seedlings or mix with dirt to plant seeds in.

“Roots and Shoots”

OKLAHOMA GREEN FRIENDS CHAPTER

(A GLOBAL YOUTH INITIATIVE --- A PROGRAM OF THE JANE GOODALL INSTITUTE)

For more information go to: www.rootsandshoots.org and OKGreenFriends@sbcglobal.net



CARING FOR NATURE

I WANT TO BE AN OK GREEN FRIEND WHO HELPS THE EARTH BY TAKING CARE OF NATURE AND USING NATURE’S GIFTS WISELY.

I CAN DO THIS BY: Recycling, Re-using, Restoring, Reducing and Respecting

- *Recycling paper, newspapers, cardboard, aluminum, plastics, glass, paint cans, old car oil and tires.
- *Composting table scraps, grass clippings, leaves, dead plants, barnyard manure, coffee grounds, etc.
- *Using water wisely. Save water by turning off water while brushing teeth. Pour cooking water on plants and shower instead of taking baths. Mulch plants so they do not need watering as often.
- *Promising not to take more from nature than is necessary or destroy anything in nature carelessly.
- *I will plant trees and plants that help feed people, birds and animals.
- *I will plant a plant that I can water every day. Each day as I water my plant I will feel grateful for nature, and our beautiful earth and all the earth gives us.
- *Each day I will sit outside under a tree and just look at nature and say "THANK YOU".
- *I will talk with others about the importance of caring for nature.

I promise to practice the 5R’s: _____
(My Signature)

Suggested reading for children by Dr. Jane Goodall and others:

Rickie and Henry: A True Story

The Chimpanzees I Love: Saving Their World and Ours

The Eagle and the Wren

Dr. White

With Love

The Chimpanzees Family Book

The Chimpanzee Family: Jane Goodall Animal Series

My Life with Chimpanzees

Grub, the Bush Baby

The Lorax by Dr. Seuss

The Giving Tree by Shel Silverstein

Suggested reading for Teachers and Parents by Dr. Jane Goodall and others:

Harvest of Hope

The Ten Trusts

Reason For Hope

Sharing Nature with Children by Joseph Cornell

Last Child in the Woods, Saving our Children from Nature Deficit Disorder

by Richard Louv

Websites that encourage youth to care for the environment, animals and people:

Roots and Shoots: www.rootsandshoots.org

U.S. Environmental Protection Agency(EPA): <http://www.epa.gov/kids/>

The Smithsonian Institute Site for Kids: <http://www.si.edu/kids/>

Kids for Saving the Earth(by kids for kids): <http://kidsforsavingearth.org/>

Global Response (Young environmentalists action page): <http://www.globalresponse.org/yea/>

Use Less Stuff: www.deq.state.ok.us/mainlinks/uls

My Footprint calculator: www.myfootprint.org

Robert Redford's Sundance Channel: <http://www.sundancechannel.com/thegreen#homePage>

Sierra Student Coalition Action Site: <http://www.scc.org/>

NRDC Green Squad for greener schools: http://www.nrdc.org/greensquad/intro/intro_1.asp