

Packing Peanuts Go Green

Plant Science and Earth Science

Materials

Labels for plant parts
Card stock
Colored biodegradable packing peanuts
Non-biodegradable packing peanuts
Clear cups
Water
Toothpicks

Overview

Students will be able to learn about different kinds of packing peanuts while conducting fun science experiments. This lesson takes a look at how packing peanuts relate to environmental issues and our lives.

Objectives

1. Compare and contrast biodegradable with non-biodegradable resources.
2. Learn grain sorghum plant parts.
3. Discuss pros and cons of environmental choices in our everyday lives.

Background Information

Packing peanuts were introduced in 1965. Approximately 95% of a packing peanut's volume is air. There are two types of packing peanuts; biodegradable and non-biodegradable. The biodegradable type are starch based and breakdown easily. At postal stores they come in different colors including green, white and pink. These different colors represent the different types of packing peanuts. The white peanuts are made up of at least 70% non-recycled materials and are the most common. A green color indicates that at least 70% of the peanut's content is recycled material. When a chemical to reduce static cling has been added to packing peanuts, they will have a pink color. Non-biodegradable packing peanuts are made from styrofoam. Styrofoam takes up about 25 to 30 percent of the space in a landfill. Packing peanuts that are shiny and in the shape of a figure eight are made from fossil fuels, produced by plants millions of years ago. Packing peanuts that are dull colored and have a "lick and stick" quality with the shape of a cheeto are made from plant starch. You can find these at postal stores or a variety of colors in the art section of a discount store.

Grade Level: 4,5 and 6

Time: 40 minutes

Standards:

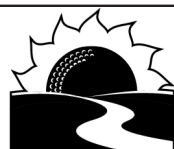
Structure and Properties of Matter:
Synthetic materials come from natural resources...

(MS-PS1-3)

Matter and Energy in Organisms and Ecosystems:

Movement of matter among plants, animals, decomposers and the environment (5-LS2-1)

For Kansas standards, visit www.ksde.org



Packing Peanuts

Preparation

Purchase biodegradable and non-degradable packing peanuts. Prepare all of the supplies for the students to do both of the activities on packing peanuts. Be sure to purchase biodegradable packing peanuts in multiple colors in the art section of a hobby discount store.

Procedures

Experiment 1

1. Fill the clear cups with water.
2. Have them hypothesize what will happen when you place the two types of packing peanuts in water.
2. Have the students place a biodegradable packing peanut in the clear cup of water.
3. Next have them put a non-biodegradable peanut in a different cup of water.
4. Have all of the students watch them and then discuss the differences.

Experiment 2

1. Give each student a piece of cardstock paper.
 2. Using the biodegradable packing peanuts, have them lick and stick the peanuts to make a model of a grain sorghum plant (use the pink color for the sorghum head).
- *use the attached diagram as a reference
3. Have them label the plant model with labels and toothpicks.



Grain Sorghum Model

