



Energy from Garbage

Grade Levels: 4-6

Background

The average person in the United States creates about four pounds of trash every day! This includes materials like aluminum, plastic, paper and food and yard waste. Some of these materials break down at the landfill. Have you ever driven by a landfill? Why do you think it smells? Decaying garbage creates an odor because a gas is being created as the trash decays. You can't see the gas, but you can smell it! That trash, even when it's decaying, contains energy!

Questions

Can you produce a gas from decaying garbage?

Can you control the amount of gas produced from decaying garbage?

Possible Hypotheses

A gas is/is not produced when garbage decays.

The amount of gas from decaying garbage can/can not be controlled.

Materials

- Packet of dried peas or beans
- 6 Airtight clear plastic bags
- Water

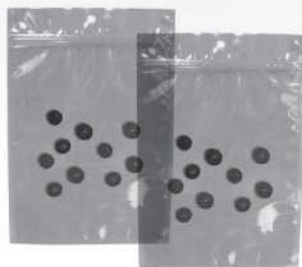
Procedure

1. Soak the beans or peas in water overnight.
2. Place 10 beans or peas into each bag and squeeze out all the air before you seal them.
3. Put two bags in a warm sunny place, two bags in a warm shady place, and two bags in a totally dark place for a week and observe what happens. Record your observations.

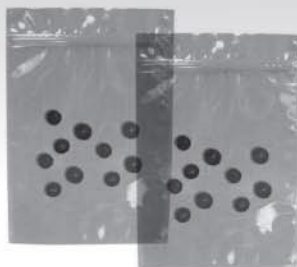
Analysis and Conclusion

Did the decaying beans produce a gas? Which environment was best for producing gas? Do you think the gas could be used as a source of energy? Why and how?

Sunny



Shady



Dark

