Lesson Plan:
Identifying Biodegradable Materials

Objective:
To identify biodegradable and non-biodegradable materials

Goals:
Arkansas Curriculum Framework

NS.1.5.2
Identify and define components of experimental design used to produce empirical evidence:
- hypothesis
- replication
- sample size
- appropriate use of control
- use of standardized variables

NS.1.5.5
- Communicate results and conclusions from scientific inquiry
LS.4.5.16
- Evaluate positive and negative human effects on ecosystems

Lesson Overview:
In this lesson, students will learn about biodegradable materials. The students will hypothesize about which items will biodegrade and which will not. These hypotheses will lead the students into why it is important to recycle and what effects do we as humans have on the environment.

Teaching Methods and Learning Activities:

Interactive Work: Students will form six groups of 4-5 students. Before beginning, each group will define biodegradable and non-biodegradable. Each group will be assigned a specific material to bury. Each group will need a recorder, materials manager, reporter and observer. The students will dig a whole, place the material in the hole, cover it with soil, sprinkle with water and mark it with a sign stating what material is buried. The students will record their initial observations, including what they think will happen to the material. The groups will decide which materials they think will break down first by forming a hypothesis. For the items that are not biodegradable, the students must think of alternate solutions for their disposal.

Evaluation: Each group will form a hypothesis and possible solution about each material buried. They will be evaluated on their understanding of a hypothesis and creativity.
Instructional Materials:

1. Spade, watering can, and plant stakes
2. scraps of vegetables, plastic, wood, metal, paper, Styrofoam

Assessment:

1. Follow up. Check up on contents every few weeks and have children record their observations and report back to the class. Ask students what can be done with the materials that cannot be broken down easily. Have children discuss their recycling ideas in groups.