Ethnobotany: What's The Dirt Say About the Past?

Introduction
Ethnobotany is the study of the role of plants in a society. Since agriculture is the basis of ancient societies, more so than today, soil samples tell an ethnobotanist what plants were important to daily life. For Mayans, cacao beans were used as money and to make chocolate for religious rituals. Ethnobotany scientists look for seeds, plant samples, paintings, pottery, and plant DNA samples that detail how the Mayans and other cultures lived.

Annotation
This lab is an investigative lab activity that can also incorporate discussion regarding the importance of agriculture in our culture. Students will work in teams to prepare soil samples and other teams will develop a method for sorting and sifting out the plant material and then determining what the plant material says about the 'culture.'

Assessed GPS
SCSh1, SCSh3, SCSh6, SCSh8, SPS7

Total Duration
50 minutes

Materials
- Student data page (attached)
- Clear plastic 2-cup containers with lid
- Water
- Bag of soil- 1 lb per person
- 1 paint tray per person
- 1 cup each of dried corn, dried peas, beans, dried rice, etc
- flower seeds
- grass seeds
- pepper
- sand
- glitter
- paper towels, coffee filters, cheesecloth, or screen material

Procedure
1. Divide into teams. Each group needs to prepare a mixture of different weights and combinations of ingredients, at least six per class, and place into a container with lid. Each group needs to keep write the recipe on the data page. Label each mixture and write n data page.
2. Each team needs to trade mixtures.
3. Shake each container and observe any sedimentation, separation of materials, and record in on page.
4. Add enough water to make a slurry, put the lid on, and shake.
5. Pour the mixture through the filtering material into a paint pan and observe how the mixture settles out. What is on top? On bottom? What is left in the filter paper? Record your observations.
6. Repeat this procedure for each mixture prepared by the class.
7. Compare observations on each mixture. Do the class observations match up with the original recipe?
8. An optional activity is to repeat this procedure with outdoor soil samples. What are your observations?

Student Data Page

NAME:_____ **GROUP #:_____**

What is the recipe for your group's mixture?

After shaking the mixture (step 3), what do you observe?

After pouring the mixture through the filtering material (step 5) what do you observe?

How do your observations compare to the classes? (step 7)