CSUN | MARILYN MAGARAM CENTER

Let's grow Healthy

Garden-Enhanced Nutrition Education

Session 2: Let's Talk Dirt

Purpose: Introduction to soil
Grade level: Kindergarten to Second Grade
Sources: Enrich LA Garden Ranger Curriculum
Total lesson time: 45 minutes (25 minutes in the classroom, 5 minutes to commute to the garden, 15 minutes in the garden)
Materials attached:
O Components of Soil handout
O 16 oz. Mason clear glass jars (one for the instructor and one per classroom)
O Hand shovels (around 15)
O Teacher Mason Jar Guide

Student Learning Objectives

1. At the end of this session, the participants will be able to recall that soil has nutrients.
2. At the end of this session, the participants will be able to recall that nutrients help you grow and be strong.
3. During the session, the participants will name the four components of soil: sand, silt, clay and organic matter.

Preparation (at least one day before)

Soil experiment

1. The instructor(s) will prepare a mason jar with soil and water to showcase to the participants.
2. In a clear mason jar, add soil from a garden plot until it is filled halfway. Add water to the top. Close the lid and shake.
3. Let the mason jar sit overnight. The soil will have separated by next morning. The different layers of the soil can be seen in the Components of Soil handout.
   NOTE: do not shake the jar, or you will not be able to see the components.

Preparation (before class) – Assistant Instructor

Assistant instructor to go to the garden before the first class to water the garden. Soil must be moist for soil experiments.

Setting: The participants' classroom

Introduction to Nutrients (10 minutes)

1. The lead instructor sits in front of the class and asks "What is the difference between soil and dirt?"
    a. Participants answer
2. The lead instructor tells participants "Soil has nutrients and dirt doesn't. Now, can someone tell me what a nutrient is?"
    a. Participants answer
3. The lead instructor tells participants and demonstrates with their hand "Nutrients are in food. Nutrients help you grow (show growth with hands) and be strong (flex arms). Can you say that with me?"
    a. Participants will follow and repeat after the instructors. Make sure to do this at least 5 times. Participants need repetition. They should be able to do it on their own.'
4. Instructor: "Now, you know that soil has ….?"
    a. Participants should answer "nutrients"
5. Instructor: "Yes! Soil has nutrients that help the plant grow. Do you know that you get all your nutrients from the food you eat? When you eat healthy food, like fruits and vegetables, you are adding nutrients to your body. When you eat food that's not as healthy, like ice cream and chips, you are not giving your body the nutrients it needs."

Introduction to Soil (10 minutes)

1. The assistant instructor will get the jar with the soil for the lead instructor. The lead instructor should ask the participants if they know what is: "Can anyone guess what this is?"
    a. Participants answer
2. The lead instructor tells participants what's inside the mason jar. "This is soil from my garden. I did a little experiment that helps me know what's in the soil. Soil has four components. Can you say four? (do the number 4 with fingers)"
    a. Participants repeat
3. The lead instructor tells participants (pointing at the parts in the jar, refer to components of soil handout) "In the soil, we have organic matter, which is just leaves and twigs. We have sand, just like the one at the park or the beach. We have clay. Raise your hand if you like to play with clay. And we have silt. **Silt** is like glue. It keeps things together. All the different components have different sizes."
4. The lead and assistant instructors should be in the front of the class. The lead instructor will demonstrate for the participants. Instructors hands should be spread apart "This is sand. Can you say sand?" Instructor should then bring their hands together. "This is silt. Can you say silt?""
    a. Practice with the participants at least 5 times. They should be able to complete most sentences.

Prepare to leave to the garden

Setting: In the garden

Introduction to the garden (5 minutes)

1. Instructors will review the garden rules with the participants
    a. **Being safe** means using tools safely, walking on paths, and keeping your hands to yourself. Example of what not to do: throw shovel, walking on rocks, etc.
    b. **Being respectful** to all living things. Only water plants, not people. Listen and follow adult directions at all times. Examples of what not to do: run when teacher is talking, pulling plants out, etc.
    c. **Being responsible** by cleaning up after yourself and staying in the garden area. Examples of what not to do: playing on swings, leaving a mess, etc.

Feel the soil (3 minutes)

1. With the help of the assistant instructor, the lead instructor will show participants how to do the soil test with their hands
    a. Invite participants to grab some soil (ideally moist)
    b. Have them squish the soil in their hand and release
    c. Ideally, the soil will be together with some lumps to the side.

Watch: https://www.youtube.com/watch?v=fv3JCciOhrE

Soil experiment (?? minutes)

1. Ask the following questions regarding soil. Participants who answer correctly will be assigned as “investigators”
    a. What are nutrients?
    b. Which is the smallest component of soil?
    c. What is the “glue” in soil?
    d. What is the biggest component of soil?
    e. What is an example of organic matter?
2. Participants who answer correctly will help to conduct a soil test. Hand them a shovel and instruct them to put soil in it up to the halfway point. Have the investigators fill the jar with water and shake it up.