

## **Mulching Lesson**

Rashmi Grace, Druid City Garden Project

### **Objectives**

- Understand the function of mulch in the garden as it relates to soil temperature, water conservation, erosion prevention, and weed suppression
- Participate in mulching the garden beds
- Students will observe demonstration of how water moves through mulched and non-mulched soil and take soil temperatures of both.

### **Materials:**

For Demo: thermometer, watering can, observation sheet

For Mulching: pine Straw or other type mulch, gardening gloves, wheelbarrows or buckets

### **Vocabulary:**

**Mulch** – a layer of material that covers the garden bed; it protects the soil, conserves moisture, and regulates temperature

**Conserve** – to save, or use wisely

**Soil erosion** – the process where the top layer of soil is carried away by wind or water

**Weeds** – unwanted plants; they compete for resources with garden plants

**Protect** – to make safe, to guard from danger

**Evaporation** – when liquid turns to vapor (gas)

**Moisture** – dampness, the presence of water in small amounts

### **Background:**

Mulch is very beneficial to our garden. It helps prevent water evaporation, conserve moisture, and suppress weed growth. It helps to regulate soil temperature, keeping the soil cool in the summer and warm in the winter. Mulch can break down and supply the soil/plants with additional nutrients. It can also help nourish worms, microorganisms, and other beneficial bugs. Mulch also protects little seedlings from wind damage.

### **Lesson:**

1. Ask students if they know what mulch is. Tell them that before we mulch the garden, we are going to find out some of the things mulch does.
2. Point out the garden beds that have already been mulched and those that have not. Tell students that we are going to make some observations about the two to see how they are different.
  - **Temperature** - First, we will check the soil temperature. Have students make a hypothesis. Will the mulched garden bed be cooler than the unmulched bed? Warmer? The same? Call on a couple of volunteers to take the temperatures of the mulched and unmulched beds. Wait a little between readings. Have the students record the results on the observation sheet.

*(Mulch helps to regulate soil temperature. When the weather is cool, the mulched bed will be warmer, as the mulch helps to trap heat. This is especially important during the winter, when a layer of mulch can help prevent plants from frost injury. When the weather is hot, the mulched bed will be cooler, as the mulch acts as a shield from the sun.)*

- **Water** - Next, we will see how water behaves on each type of plot. Have students make a hypothesis. Call on two more volunteers to water each plot an equal amount. Have students record their observations.

*(The water on the unmulched bed may pond before being fully adsorbed by the soil. Some of the water on the mulched bed will be adsorbed by the mulch; there will be a more equal distribution of the water. Point out that unmulched bed is more exposed to the sun, so water will evaporate more*

*quickly than on the mulched bed. In this way, mulch helps to conserve moisture so we don't have to water the garden as frequently.)*

- **Weeds** - Ask students whether they see any weeds in either of the beds. Have them record their observations.

*(Mulch helps prevent weed growth. Because the weed seedlings are covered, it's more difficult for them to grow. This means that we spend less time weeding the garden bed. We do not want weeds in our garden, because they compete with our plants for resources. The unmulched bed should have many more tiny weed and grass seedlings that have sprouted up.)*

- **Erosion** – Ask students to think about any other things mulch might do for the garden. Talk a little about soil erosion and how mulch protects the soil from being carried away by wind and water.
3. Tell students the proper mulching procedure. Make sure that they know to walk only in the garden pathways. Distribute gardening gloves if available, and buckets. Students will work in pairs to fill buckets with pine straw and cover garden beds.
  4. Back in the classroom, have students write down two things they learned about mulch in space provided on their observation sheet.

## Mulch in the Garden



Vocabulary  
mulch  
conserve  
moisture  
protect

evaporation  
weeds  
soil erosion

	Bed with mulch	Bed without mulch
What was the temperature? Was it different?		
Did you see any weeds? What did they look like?		
What happened when you watered?		

Write down two things that you learned about mulch today.

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