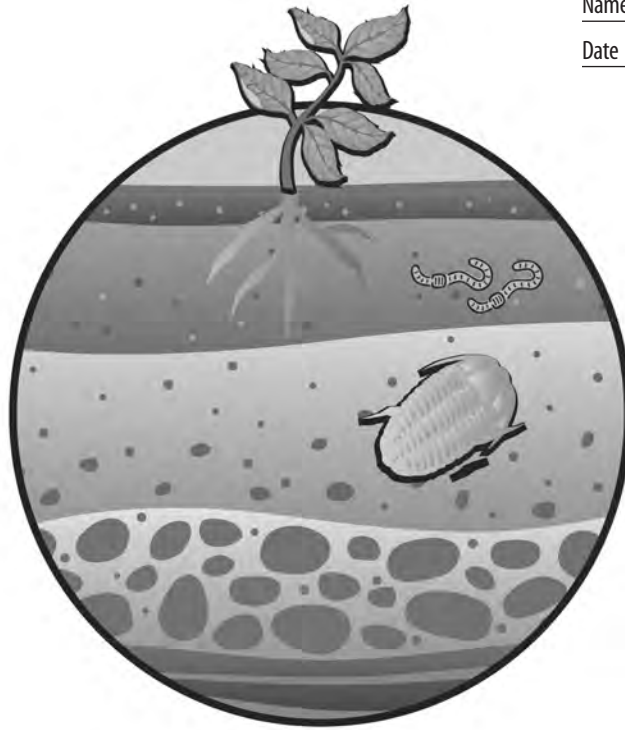


Master 2.1, Dry Soil Investigation

Name _____

Date _____



Procedure

- Step 1.** Place 1 teaspoon (tsp) of potting soil in the center circle of one copy of the graphic organizer and 1 tsp of local soil in the center circle of the other copy of the graphic organizer.
- Step 2.** Use a hand lens and a pencil to sort the soil components into the categories listed on the graphic organizer.
- Step 3.** Once both soil samples have been separated into their components, compare the results for the two types of soils.

Discussion Questions

1. In what ways are the two soil types similar? How are they different?
2. Can you tell by visual inspection how well a soil will support plant growth? Why or why not?



Name _____

Date _____

Inorganic

Organic

**Smaller
particles**

**Plant
material**

Soil Sample

**Larger
particles**

**Animal
material**



Master 2.3, Soil and Air Space

Name _____

Date _____

Procedure

- Step 1.** Use the glass marking pencil to label three 50-milliliter (mL) test tubes “potting soil,” “local soil,” and “sand.”
- Step 2.** Place 20 mL of the appropriate soil into each test tube.
- Step 3.** Use a ruler to measure the height of the soil in the test tube. Make a mark near the top of the test tube at a position twice the height of the soil.
- Step 4.** Slowly add 20 mL of water to the tube containing the potting soil. Record your observations in the following table. Repeat, adding 20 mL of water to the tubes containing local soil and sand.

Soil Type	Observations
Potting soil	
Local soil	
Sand	

Discussion Questions

1. Why did the final water level differ among the three types of soil?

2. Why is it important for plant growth that soils contain air space?



Master 2.4, Soil and Water

Name _____

Date _____

Procedure

- Step 1.** Label three 100-milliliter (mL) graduated cylinders “potting soil,” “local soil,” and “sand.”
- Step 2.** Place 80 mL of the appropriate soil into each graduated cylinder.
- Step 3.** Slowly add 20 mL of water to the graduated cylinder containing the potting soil. Record your observations in the following table. Note how long it takes water to move through the soil. Repeat, adding 20 mL of water to the cylinders containing local soil and sand.

Soil Type	Observations
Potting soil	
Local soil	
Sand	

Discussion Questions

1. Infiltration refers to the ability of soil to accept water. Which of the soils you tested accepted the most water?
2. Percolation refers to the ability of soil to transmit water throughout its depth. Which of the soils you tested allowed for the fastest water movement? Which allowed water to reach the greatest depth?

