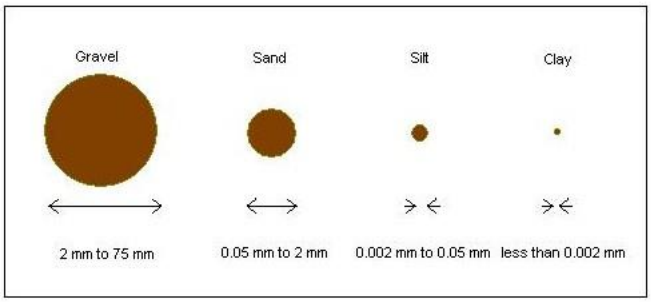
Name of those in your group:

Erdkinder Team Study Guide

Soil Unit; Water-Holding Capacity of Different Types of Soil



Overview: Between the particles which makes up soil, is air and water. Today we are going to conduct an experiment using different types of soil from our own backyard of Utah, provided by Ag in the Classroom. This website is a great resource to both teacher and student. They even have a game section. Check it out: http://utah.agclassroom.org/htm/student/aggames

Essential questions: Which type of soil would hold the most water per gram of soil?

Chores: Feed & Water Chickens (3-4); water plants in greenhouse as well as the flower bed on North side (4), leave two gallons of water full in the greenhouse when finished; build tiers for melons/squash (3-4); determine where to put the labyrinth & pile rocks; sweep wood chips; weed;

Checklist

_____ Remove the top and bottom from an orange juice can using a utility knife. Cover one end of the can with a coffee filter. Use a strong rubber band to fasten it securely to the can.

_____ Weigh the empty can, the rubber band and the coffee filter then record its mass in grams: _____

_____ Complete the table below as a team;

Type of Soil	Mass of dry soil (g)	Mass of wet soil (g)	Mass of water in wet soil (g)	Mass of water absorbed per gram of dry soil (g)

_____ Add on type of soil to the can until it is about ¾ full. Record the type of soil in your data chart

_____Weigh the can of dry soil. How can you find the mass of the soil in the can? Record the mass in your table

_____ (Read entire instructions before performing this step) Hold the can over an empty container. Slowly pour water from a cup onto the soil. When water begins to drip through the soil into the container below, stop adding water. When water stops dripping from the can, assume the soil holds as much water as it can. Weigh the can of wet soil and record in table.

_____ Calculate the mass of water in the saturated soil. Record that mass in your data table.

_____ Calculate and record the mass of water absorbed per gram of the dry soil. (Show it's relationship) For example, suppose dry soil weighed 100 g and the wet soil weighed 150 g. The mass of water in the saturated soil was 150 g – 100 g = 50 g. The mass of water absorbed per gram of dry soil was $\frac{50\ g}{100\ g}$ = .5 g of water/g of dry soil

_____ Repeat this process for each soil type

_____ Save your soil samples for another day. Be careful not to mix types.

_____ Turn in study guide