

Soil Texture



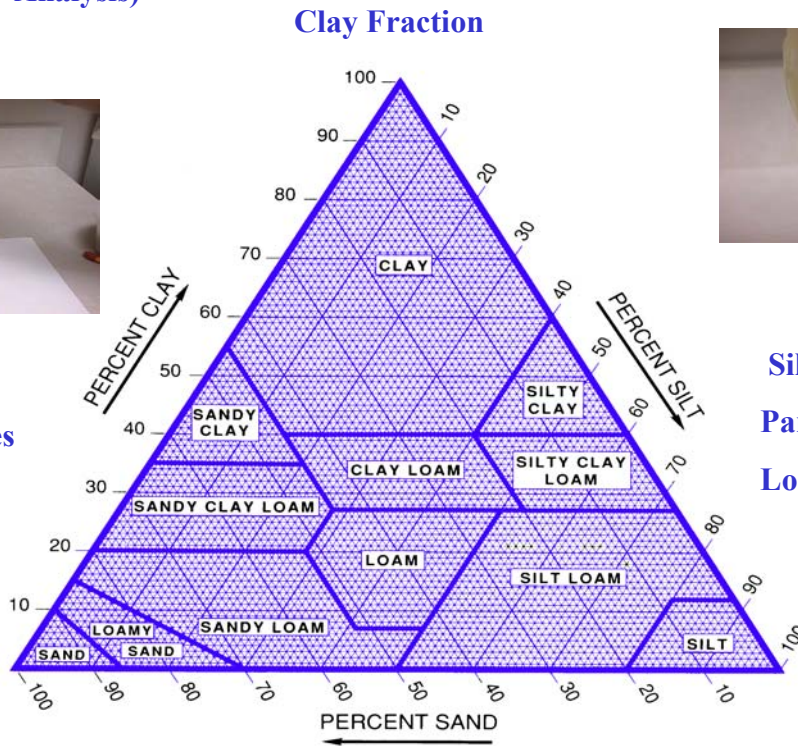
**Soil Texture
(Laboratory Analysis)**



Silt & Clay vs Sand



**Sand Settles
Very Fast**



**Silt and Clay
Particles Take
Longer to Settle**



Sand Fraction

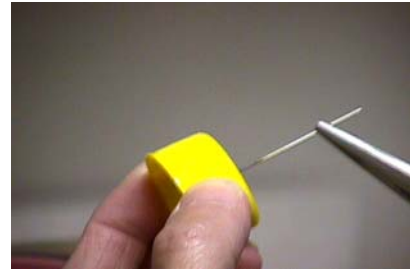


Silt Fraction

Soil Erosion Demonstration



Fill plastic bottles with “hot” water and peel the labels off.



Cut bottles to make the erosion model and pierce cap with hot needle

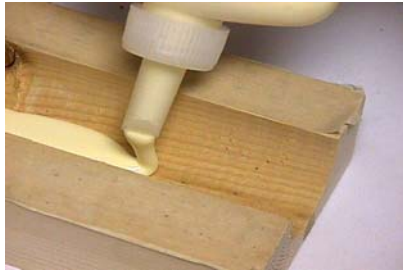
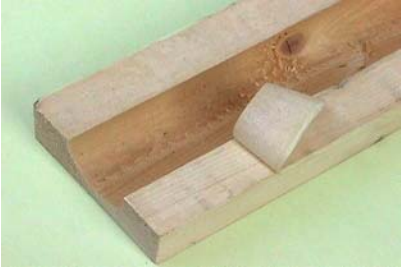


Experiment by applying different mulches to the surface or by using soils with different percent organic matter. (garden vs forested soils)



Soils high in organic matter and soils covered with mulch will yield clearer runoff than bare soils or soils low in organic matter.

How To Make a Soil Monolith



Use masking tape, wood glue, cheese cloth, and some form of tray



Use the wood glue to firmly attach the cheesecloth to the soil and tray. Add the soil and “pick” it to show the structure and color of the undisturbed soil.

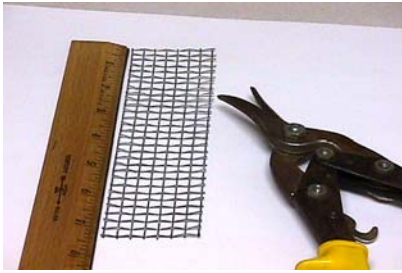


Make a 50 percent mixture of white glue and water. Saturate the soil with the mixture, either by spraying or pouring the glue over the soil.



After saturating the soil, prop the tray up and drain off the excess. Remove the tape from the sides of the tray and let the monolith dry. Label the monolith when you are finished.

Soil Organic Matter (aggregate stability)



Hardware cloth and two glass jars are all you need for this demonstration.



Choose two soils which you suspect will have different organic matter contents.
(garden vs. lawn, no-till crop field vs. conventional tilled crop field)

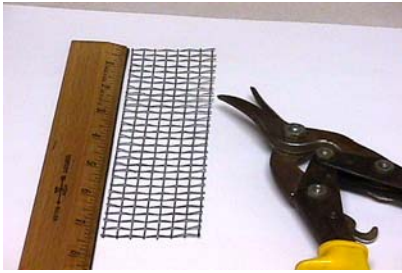


A soil clod high in
organic matter will
stick together.
The water will be clearer.



A soil clod low in organic
matter will slake rapidly.
The water will be
cloudy.

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Particle Size Demonstration



Add Sand



Add Silt&Clay



Sand will settle rapidly while silt and clay will settle more slowly.



Shake up the bottles and observe how long it takes for the particles to settle



Observe the difference in the clarity of the water. Sand vs Silt&Clay

Soil Experiments for the Classroom



Soil Erosion Using Plastic Bottles



Aggregate Stability
(Organic matter)



Soil Air



Soil Structure



Soil Separates - Sand particles settle faster than silt and clay particles



Soil Color



Manganese Concretions



Soil Texture Sample

Soil Texture



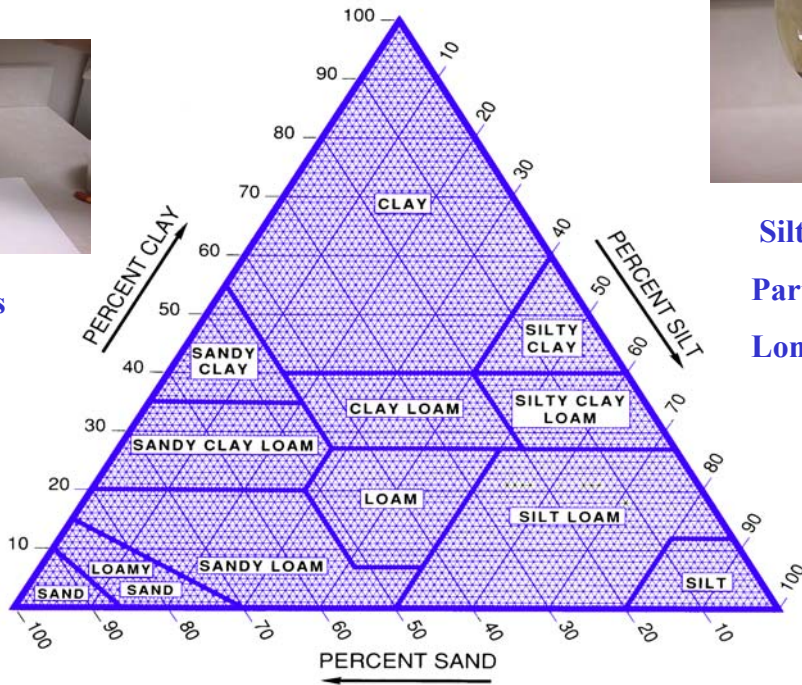
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Clay Fraction



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Sand Fraction



Silt Fraction