

Objectives: Determine texture by feel, determine soil color using Munsell system, measure reaction and effervescence, observe soil structure, determine consistence classes of wet samples, observe clay films in hand specimens and with the microscope.

1. Practice texture by feel using the samples arranged near the sinks. Select three samples from each group, write % sand, silt, and clay, and name the textural class using the textural triangle.

Sand	Silt	Clay	Texture Abbreviation	
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Now estimate % sand, silt, and clay, textural class and wet consistences (stickiness and plasticity) of the unknowns.

A

B

C

What would the texture of A be if it contained 10% gravel and 10% cobbles by volume?

How does coarse fragment content affect soil properties?

2. Determine dry and moist colors of the unknowns. What are the pigments?

A

B

C

3. Measure pH on the three unknowns using colorimetric indicators and the pH meter. On sample C observe the reaction with a drop of 1M HCl. Write the reaction that occurs.

A

B

C

Reaction:

4. Identify the size and shape of the unknown structures.

A

B

C

5. Describe the abundance and size of pores in the "vesicular structure" specimen.

6. Observe clay films with the microscopes and in hand specimens.