APES Soil Texture Triangle Activity

Using the soil texture triangle, scientists have created classes which break the distribution of particle sizes (soil textures) into 12 categories: clay, sandy clay, silty clay, sandy clay loam, clay loam, silty clay loam, sand, loamy sand, sandy loam, loam, silt loam, silt.

The soil texture triangle is one of the tools that soil scientists use to visualize and understand the meaning of soil texture names. The textural triangle is a diagram which shows how each of these 12 textures is classified based on the percent of sand, silt, and clay in each. Note: these percentages are based on the USDA definition of sand and silt only.

Follow these steps to determine the textural class name of your soil sample:
1) Place a plastic sheet or tracing paper over Textural Triangle 3. Place the edge of a ruler at the point along the base of the triangle that represents the percent of sand in your sample. Position the ruler on the line that slants in the direction that the numbers are facing for percent sand.
2) Place the edge of a second ruler at the point along the right side of the triangle. Position the ruler on the line which slants in the direction that the numbers are facing for percent silt.
3) Place the point of a pencil or water soluble marker at the point where the two rulers meet. Place the top edge of one of the rulers on the mark, and hold the ruler parallel to the horizontal lines. The number on the left should be the percent of clay in the sample. Note that the sum of the percent of sand, silt, and clay should add up to 100.
4) The descriptive name of the soil sample (textural class) is written in the shaded area where the mark is located. If the mark should fall directly on a line between two descriptions, record both names.

For the example below, the textural class of the soil sample would be

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         % Sand  % Silt  % Clay
USDA:    66.4    12.8    20.8   =  ?          (Sandy Clay Loam)
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Soil Texture Practice Work Sheet – Use your own paper.

Use the following numbers to determine the soil texture name using the textural triangle. When a number is missing, fill in the blanks. Note: the sum of percents and, silt and clay should always add up to 100 percent.

	% Sand	% Silt	% Clay	Texture Name
a.	75	10	15	sandy loam
b.	10	83	7	
c.	42		37	
d.		52	21	
e.		35	50	
f.	30		21	
g.	5	70		
h.	55		40	
i.		45	10	