Identifying Soil Texture by *Measurement*:

1. Spread your soil sample onto a blank piece of paper *(or paper plate)* to dry. Remove all rocks, trash, roots, etc. Break apart any lumps and clods.

2. Finely crush the soil with your fingers *(or using a mortar and pestle)* so that the soil texture size is small, or until all lumps and clods have been broken apart.

3. Add soil into a 100mL graduated cylinder *(or plastic bottle)* so that it is ***one-quarter (1/4)*** full of soil.

4. Add water into the 100mL graduated cylinder *(or plastic bottle)* so that it is ***three-quarters (3/4)*** full.

5. Add teaspoon of powdered, non-foaming dishwasher detergent into 100mL graduated cylinder *(or plastic bottle)*.

6. Put on a tight fitting lid/cover and shake vigorously and continuously for about ***2-3 minutes***. This shaking breaks apart the soil aggregates and separates the soil into individual mineral particles.

7. Set the 100mL graduated cylinder *(or plastic bottle)* in an area where it will sit ***undisturbed*** for about ***15-20 mins***.

8. During this time, soil particles will settle out according to size *(density column)*. At the end of 15-20 min period:

    a. Measure the depth ***(thickness – cm)*** of the **sand** *(or make a mark on plastic bottle)*.
    b. Measure the depth ***(thickness – cm)*** of the **silt** *(or make a mark on plastic bottle)*.

9. When the water clears, measure the depth ***(thickness – cm)*** of the **clay** level *(or make a mark on plastic bottle)*.

10. ***Record*** the depth ***(thickness – cm)*** of the sand, silt, and clay layers below:

    a. Thickness of *sand* deposit → _____ cm

    b. Thickness of *silt* deposit → _____ cm

    c. Thickness of *clay* deposit → _____ cm

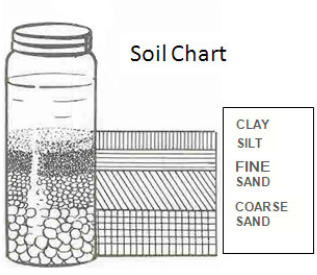
    d. Thickness of ***TOTAL*** deposit → _____ cm

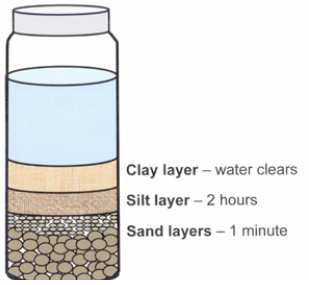
11. ***Calculate*** the percentage of sand, silt, and clay: ***(round percentages to nearest whole number)***

[sand thickness] / [total thickness] x 100 → [ ] / [ ] x 100 = _____ ***% sand***

[silt thickness] / [total thickness] x 100 → [ ] / [ ] x 100 = _____ ***% silt***

[clay thickness] / [total thickness] x 100 → [ ] / [ ] x 100 = _____ ***% clay***





Identifying Soil Texture by *Feel*:

1. ***Feel Test*** – Obtain some soil sample from the 100mL graduated cylinder *(or plastic bottle)*, and rub some moist soil against the middle of your palm or between two fingers.

    a. Sand feels gritty.
    b. Silt feels silky and smooth.
    c. Clay feels sticky.

2. ***Sphere Test*** – Mold your soil sample into a sphere *(ball)*, and squeeze the sphere in your hand.

    a. *Coarse* texture soils *(sand or loamy sands)* break with slight pressure.
    b. *Medium* texture soils *(sandy loams and silt loams)* stay together, but change shape easily.
    c. *Fine* textured soils *(clay or clay loam)* resists breaking.

3. ***Ribbon Test*** – Re-mold your soil sample into a sphere. Squeeze the sphere between your thumb and forefinger.

    a. Ribbons *less than* 1 inch:
        i. Feels gritty = coarse texture *(sandy)* soil
        ii. Not gritty feeling = medium texture soil high in silt

    b. Ribbons *1-2 inches*:
        i. Feels gritty = medium texture soil
        ii. Not gritty feeling = fine texture soil

    c. Ribbons *greater* than 2 inches = fine texture *(clay)* soil

NOTE: A soil with as little as 20% clay will behave as a clayey soil. A soil needs 45% to over 60% medium to coarse sand to behave as a sandy soil. In a soil with 20% clay and 80% sand, the soil will behave as a clayey soil.