Soil Texturing in Your Backyard!
Why is Soil Important?

- Agriculture – provision of food, fibre and fuel
- Carbon storage
- Water purification
- Climate regulation
- Habitat for organisms
- Nutrient cycling
- Flood regulation
- Foundation for human infrastructure
- Source of materials for construction
What Makes up Soil?

- Mineral Matter: 45%
- Organic Matter: 5%
- Water: 25%
- Air: 25%
What is Soil Texture?

- **Sand**: 0.05 – 2.0 mm
- **Silt**: 0.002 – 0.5 mm
- **Clay**: 0.002 mm or smaller

Sand consists of larger particles, silt is of medium size, and clay is the smallest fraction.
Why is Soil Texture Important?

It can help explain:

- How soil interacts with water
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- How soil interacts with water
- How soil interacts with nutrients
- How soil interacts with plants
How to Texture Soil
(In your own backyard!)
What You’ll Need

- A hand shovel or spoon of some sort
- A jar (any size – bigger the better)
- Water
- Dish soap or laundry detergent
- A ruler
- Calculator
Instructions

1. Fill your jar about ½ full with soil. Wet the soil to a mud consistency and tap the jar to let the soil settle.

2. Mark the level of soil on the jar. Add sufficient water to fill the jar, put the lid on and shake it really well.

3. Open the lid and add a couple drops of dish soap. Swirl around to mix in the soap.

4. Let the soil settle for 30 seconds and mark the level of settled soil on the jar – this is the sand portion.
Instructions

• The heaviest particles (sand) will settle first.

• The medium particles (silt) will settle next.

• The smallest particles (clay) will stay in suspension the longest and will settle last.

• The large, dark bits that remain at the top are probably bits of organic matter, which are not a part of the soil texture.
Instructions

5. Let the soil settle for 6 hours and then mark the level of settled soil on the jar. The difference between this mark and the sand is the silt portion.

6. Let the jar settle over the next 24 hours, mark the top part of the settled soil and then measure the depth of each mark.

7. Calculate the percentage of sand, silt and clay \[\left(\frac{\text{height of each layer}}{\text{height of all layers}}\right) \times 100\%\]

8. Use soil texture calculator (given on next slide) to find your soil texture and find out what properties your soils have and what it would be best suited for.
Look Up Characteristics About Your Soil

Soil Texture Calculator:
https://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/?cid=nrcs142p2_054167

Soil Characteristics Based on Texture:
1. https://www.boughton.co.uk/products/topsoils/soil-types/
Thanks!

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