Title: 113 Texture-How to distinguish sand fractions in the field.

Type: ☑ Skill ☐ Knowledge

Performance Objective: Trainee will be able to …
- Distinguish sand fractions in soil using the *Field Book for Describing and Sampling Soils*.

Target Proficiency:
☐ Awareness ☐ Understanding ☐ Perform w/ Supervision
☑ Apply Independently ☐ Proficiency, can teach others

Trainer Preparation:
- Trainer should be familiar with the assigned reading/review material in the lesson plan that follows.
- Have soil samples and field locations with pit, trench, road cut, or auger borings available.
- Have a sand card or calibration samples of sand fractions.
- Have the *Field Book for Describing and Sampling Soils* available.
- Have hardcopy of the 232 soil description form or Pedon PC available.

Special Requirements:
- Initiate an external learning request with a SF-182 in Aglearn for this activity. Instructions and a template are located on the training webpages for OJT modules.
- If you do not have a sand card and/or sand calibration samples, you could ask the NSSL to provide these to you.

Prerequisite Modules:
- 101 How to use the *Field Book for Describing and Sampling Soils*.
- 102 How to fill out a 232 soil description form.
- 112 How to describe sand, silt, and clay in the soil.

Notes:
None

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Approved by:
Shawn McVey
The Five-Step OJT Cycle for **Procedural** Training (Skill)

**Cycle Step 5**
Trainer/Trainee debrief

**Cycle Step 1**
Trainer/Trainee establish shared mental model

**Cycle Step 4**
Trainer observes
Trainee performs task and gives feedback

**Cycle Step 2**
Trainer demonstrates task as Trainee observes

**Cycle Step 3**
Trainer coaches as Trainee performs task
## OJT Module Lesson

**Title:** 113 Texture-How to distinguish sand fractions in the field.

<table>
<thead>
<tr>
<th>WHAT</th>
<th>WHY, WHEN, WHERE, HOW, SAFETY, QUALITY</th>
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| Cycle step 1 | Trainee should access via the internet and read Soil Survey Manual, Chapter 3 sections on Soil Separates and Soil Texture under Particle Size Distribution. Trainee should access via the internet and read National Soil Survey Handbook 618:  
  - Particle-size-Sand Percentage  
  - Texture Class, Texture Modifier, and Terms Used in Lieu of Texture  
  Trainee should have previously read Soil Survey Field and Laboratory Methods Manual, Soil Survey Investigations Report No. 51, version 1.0; section 3.2.1, pages 41-46, Feel Method.  
  Access hardcopy or via the internet and review material about texture in the *Field Book for Describing and Sampling Soils*, focusing on the subclasses of sands, loamy sands, and sandy loams.  
  Review attached Sand size separates for sandy textures.pdf. |

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<tr>
<th>Cycle step 2</th>
<th>Do the following:</th>
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<tr>
<td>1. Review what can be recorded according to the Field Book and SSM.</td>
<td>Note that you record subclasses of sands, loamy sands, and sandy loams.</td>
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<tr>
<td>2. Demonstrate how to describe and record soil structure as it occurs in the survey area.</td>
<td>Do this in the field.</td>
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| | 1. Crushing a small sample, show how you “feel” the dominant sand fraction. Discuss how this becomes easier with experience and calibration.  
  2. Crushing a small sample in the palm of your hand and saturating with water, smooth and work the sample with a finger. Show how you can visually compare sand fractions to your sand card or calibration samples.  
  3. Record the appropriate subclass of sand, loamy sand, or sandy loam textures in the 232 soil description form or Pedon PC. |
Cycle step 3
Coaching the trainee, have the trainee distinguish sand fractions as appropriate in the survey area.

Cycle step 4
Repeat cycle step 3 without coaching.
During project activities, assign the trainee the task of distinguishing sand fractions as soil descriptions are completed.

Cycle step 5
Answer any questions. Repeat any steps as necessary.

OJT Module Lesson Measurement of Learning
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<td>Describe soil structure routinely during project activities.</td>
<td>During project activities, assign this task to the trainee. Sign off on performance when target proficiency is achieved.</td>
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**SF-182**

Trainee and/or supervisor access Aglearn to verify completion of the module via its SF-182.