**Title:** 204 How to identify soil orders

**Type:** X Skill □ Knowledge

**Performance Objective:** Trainee will be able to...
- Identify soil orders using horizons and characteristics diagnostic for the higher categories in the *Keys to Soil Taxonomy*.

**Target Proficiency:**
- Awareness □ Understanding □ Perform with supervision
- X Apply independently □ Proficiency, can teach others

**Trainer Preparation:**
- Have available a hard copy and/or an ecopy of the current *Keys to Soil Taxonomy*.
- Access enough pedon descriptions and/or OSDs to provide a cross representation of the survey area and thus address the activities for Cycle Steps 2, 3, and 4. Include soils with organic layers if they occur in your survey area. You may want to block out the higher category classification of the soil to hide it from the trainee.

**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.

**Prerequisite Modules:**
- 201 How to use *Soil Taxonomy* and the *Keys to Soil Taxonomy*
- 202 How to use *The Guy Smith Interviews: Rationale for Concepts in Soil Taxonomy*
- 203 How to identify diagnostic horizons and characteristics of the higher categories

**Notes:**
None

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

- **Cycle Step 1**: Trainer and Trainee establish a shared mental model.
- **Cycle Step 2**: Trainer demonstrates task as Trainee observes.
- **Cycle Step 3**: Trainer coaches as Trainee performs task.
- **Cycle Step 4**: Trainer observes Trainee perform task and gives feedback.
- **Cycle Step 5**: Trainer and Trainee debrief.
OJT Module Lesson
Title: 204 How to identify soil orders

<table>
<thead>
<tr>
<th>WHAT</th>
<th>WHY, WHEN, WHERE, HOW, SAFETY, QUALITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cycle Step 1</td>
<td>You and trainee review the objective and agree on the purpose of this module. Decide whether to use a hard copy and/or ecopy of the Keys to Soil Taxonomy (Keys). Emphasize that the current Keys to Soil Taxonomy will be used since it amends and updates Soil Taxonomy. Have the trainee locate and read the introductory paragraphs of Chapter 4 (“Identification of the Taxonomic Class of a Soil”) in the Keys. Explain that the 12 soil orders are arranged in a sequence based on their significance to management. The Key to Soil Orders in Chapter 4 is used to make a class selection. Also locate on the internet the Guide to Pronouncing Taxonomic Terms. You and trainee should use this guide as needed during training related to Soil Taxonomy.</td>
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<tr>
<td>Cycle Step 2</td>
<td>Select a pedon for a mineral soil or use an official soil series description (OSD) for this step. Recognize the epipedon, any diagnostic subsurface horizons, and any diagnostic characteristics for the trainee. Then classify the soil using the Key to Soil Orders to determine the order. Explain how you decided upon the diagnostic horizons and characteristics. Clarify any assumptions or inferences you made about soil climate (i.e., soil moisture and soil temperature regimes). Include a pedon for an organic soil or a mineral soil with a histic epipedon if you have one in your survey area.</td>
</tr>
<tr>
<td>Cycle Step 3</td>
<td>Assign the trainee one or more pedons and/or OSDs. If necessary, help the trainee to determine the epipedon, diagnostic subsurface horizons, and any other diagnostic characteristics. Have the trainee classify each soil to determine the soil order. This step should be performed with supervision.</td>
</tr>
<tr>
<td>Cycle Step 4</td>
<td>Assign the trainee one or more pedons and/or OSDs. If necessary, help the trainee to determine the epipedon, diagnostic subsurface horizons, and any other diagnostic characteristics. Then have the trainee classify each soil to determine the soil order. This step should be performed without supervision.</td>
</tr>
<tr>
<td>Cycle Step 5</td>
<td>Debrief as needed.</td>
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OJT Module Lesson Measurement of Learning

**Title**: 204 How to identify soil orders

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<td>Identify diagnostic properties.</td>
<td>During the course of work on project activities, have the trainee determine diagnostic horizons and characteristics. Repeat until the trainee is proficient.</td>
</tr>
<tr>
<td>Test</td>
<td>Trainee should complete the quiz below.</td>
</tr>
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</table>

**SF-182**

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

1. Soil colors are used in many of the criteria for keying soil orders.
   a. True
   b. False

2. Standard rounding conventions should be used to determine numerical values.
   a. True
   b. False

3. You must start at the beginning of the Keys by using the Key to Soil Orders to systematically check for the first class that fits the soil in question.
   a. True
   b. False