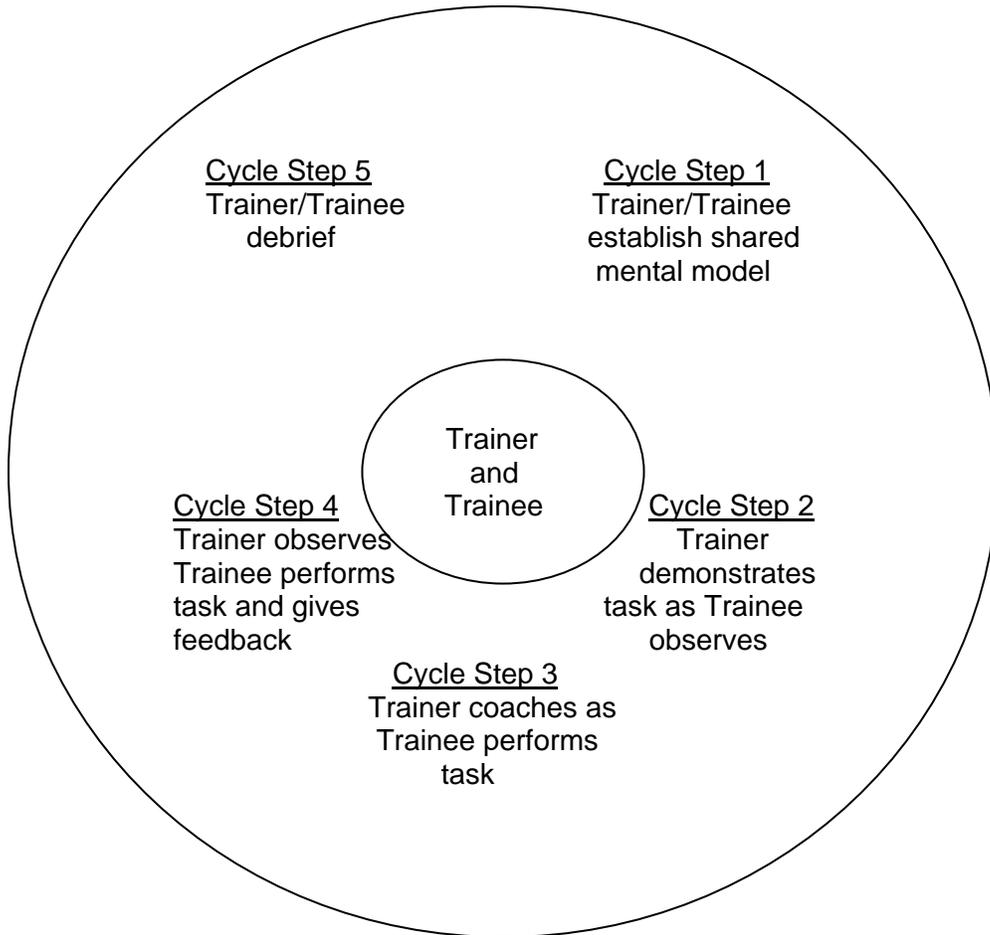


## OJT Training Module Cover Sheet

<b>Title:</b> 105 How to differentiate and identify soil horizons in the field.
<b>Type:</b> <input checked="" type="checkbox"/> Skill <input type="checkbox"/> Knowledge
<b>Performance Objective:</b> Trainee will be able to ... <ul style="list-style-type: none"><li>• Describe soil horizons and their depths using appropriate soil horizon nomenclature and following NCSS guidelines.</li><li>• Describe the boundaries between horizons following NCSS guidelines.</li><li>• Describe observation method used for each horizon following NCSS guidelines.</li></ul>
<b>Target Proficiency:</b> <input type="checkbox"/> Awareness <input type="checkbox"/> Understanding <input type="checkbox"/> Perform w/ Supervision <input checked="" type="checkbox"/> Apply Independently <input type="checkbox"/> Proficiency, can teach others
<b>Trainer Preparation:</b> <ul style="list-style-type: none"><li>• Trainer should be familiar with the assigned reading/review material in the lesson plan that follows.</li><li>• Have field locations with pit, trench, road cut, or auger borings available.</li><li>• Have the <i>Field Book for Describing and Sampling Soils</i> available.</li><li>• Have hardcopy of the 232 soil description form or Pedon PC available.</li><li>• Have the current <i>Keys to Soil Taxonomy</i> available.</li><li>• Have suitable items for markers to designate horizon breaks (nails, golf tees, etc.) available.</li></ul>
<b>Special Requirements:</b> 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.
<b>Prerequisite Modules:</b> <ul style="list-style-type: none"><li>• 101 How to use the <i>Field Book for Describing and Sampling Soils</i>.</li><li>• 102 How to fill out a 232 soil description form.</li></ul>
<b>Notes:</b> None
<b>Authors:</b> George Teachman Marc Crouch
<b>Approved by:</b> Shawn McVey

# The Five-Step OJT Cycle for Procedural Training (Skill)



## OJT Module Lesson

Title: <b>105 How to differentiate and identify soil horizons in the field.</b>	
WHAT	WHY, WHEN, WHERE, HOW, SAFETY, QUALITY
Cycle step 1	<p>Have trainee access via the internet and read/review the <b>Soil Survey Manual, chapter 3:</b></p> <ul style="list-style-type: none"> <li>Sections on <b>Designations for Horizons and Other Layers.</b></li> </ul> <p>Access hardcopy or via the internet and review material in the <b>Field Book for Describing and Sampling Soils</b>, focusing on the charts and discussions for:</p> <ul style="list-style-type: none"> <li>Observation Method</li> <li>Master, Transitional, and Common Horizon Combinations</li> <li>Horizon Suffixes</li> <li>Other Horizon Modifiers</li> <li>Horizon Depth</li> <li>Horizon Boundary</li> </ul> <p>Access hardcopy or via the internet and review current edition of <b>Keys to Soil Taxonomy</b>, Chapter 18, "<b>Designations for Horizons and Layers.</b>"</p> <p>Trainer should explain that up-to-date nomenclature for describing horizons should be referenced in the current <i>Keys to Soil Taxonomy</i> (or its amendment).</p>
Cycle step 2	Do the following:
1. Review what is recorded according to the Field Book and SSM.	<ul style="list-style-type: none"> <li>Note observation methods recorded for disturbed, undisturbed, and wall/floor.</li> <li>Note that depths (and thickness if recorded) are now to be recorded in metric units (centimeters).</li> <li>Note that horizon boundary has <i>distinctness</i> and <i>topography</i> recorded.</li> </ul>
2. Demonstrate recognition of what you behold.	<p>Do this in the field. Start placing your markers.</p> <ul style="list-style-type: none"> <li>Start with what you can see (color, structure, features, fragments, roots, and other) and place markers where your confidence is highest in distinguishing between horizons.</li> <li>Modify and/or refine with what you can feel (texture, consistence, and other).</li> <li>Modify and/or refine with what you can measure in the field (pH, effervescence, EC, and other).</li> </ul>

<p>3. Demonstrate selecting appropriate master horizons.</p>	<p>Reference the current <i>Keys to Soil Taxonomy</i>.</p> <ul style="list-style-type: none"> <li>• Review master horizons in general and those typically used in your survey area.</li> <li>• Review transitional and combination horizons in general and those typically used in your survey area.</li> </ul>
<p>4. Demonstrate selecting appropriate horizon suffixes.</p>	<p>Reference the current <i>Keys to Soil Taxonomy</i>.</p> <ul style="list-style-type: none"> <li>• Review suffixes in general and those typically used in your survey area.</li> <li>• Review “Conventions for Using Letter Suffixes” and emphasize the order suffixes are written when used in combination with each other.</li> <li>• Trainer should note that suffixes do not necessarily equate to diagnostic horizons. Suffixes are qualitative while diagnostic horizons are also quantitative.</li> </ul>
<p>5. Demonstrate vertical subdivision of master horizons.</p>	<p>Reference the current <i>Keys to Soil Taxonomy</i>.</p>
<p>6. Demonstrate recognition and description of discontinuities.</p>	<p>Reference the current <i>Keys to Soil Taxonomy</i>.</p> <p>This will require a soil profile with a discontinuity.</p>
<p>7. Discuss use of prime and caret symbols to differentiate appropriate horizons.</p>	<p>Reference the current <i>Keys to Soil Taxonomy</i> and discuss use of these symbols (if appropriate profiles are not readily available).</p>
<p>8. Demonstrate describing and recording horizon boundaries.</p>	<p>Reference the Field Book. Discuss this subject in general and indicate what is typically seen in your survey area.</p>
<p>Cycle step 3</p>	<p>Coaching the trainee, have the trainee describe and record soil horizons as appropriate in your survey area.</p>
<p>Cycle step 4</p>	<p>Repeat cycle step 3 without coaching.</p> <p>During project activities, assign the trainee the task of describing soil horizons as soil descriptions are completed.</p>
<p>Cycle step 5</p>	<p>Answer any questions. Repeat any steps as necessary.</p>

## OJT Module Lesson Measurement of Learning

Title: <b>105 How to differentiate and identify soil horizons in the field.</b>	
<b>WHAT</b>	<b>WHY, WHEN, WHERE, HOW, SAFETY, QUALITY</b>
Describe soil horizons routinely during project activities.	During project activities, assign this task to the trainee. Sign off on performance when target proficiency is achieved.

### **SF-182**

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