

OJT Training Module Cover Sheet

Title: 201 How to use *Soil Taxonomy* and the *Keys to Soil Taxonomy* – Overview

Type: Skill Knowledge

Performance Objective: Trainees will be able to...

- Understand what information is in *Soil Taxonomy* versus the *Keys to Soil Taxonomy*.
- Understand what information is in both *Soil Taxonomy* and the *Keys to Soil Taxonomy*.
- Understand when they want to refer to *Soil Taxonomy* versus the *Keys to Soil Taxonomy*.

Target Proficiency:

- Awareness Understanding Perform with supervision
 Apply independently Proficiency, can teach others

Trainer Preparation:

None

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:

None

Notes:

None

Authors:

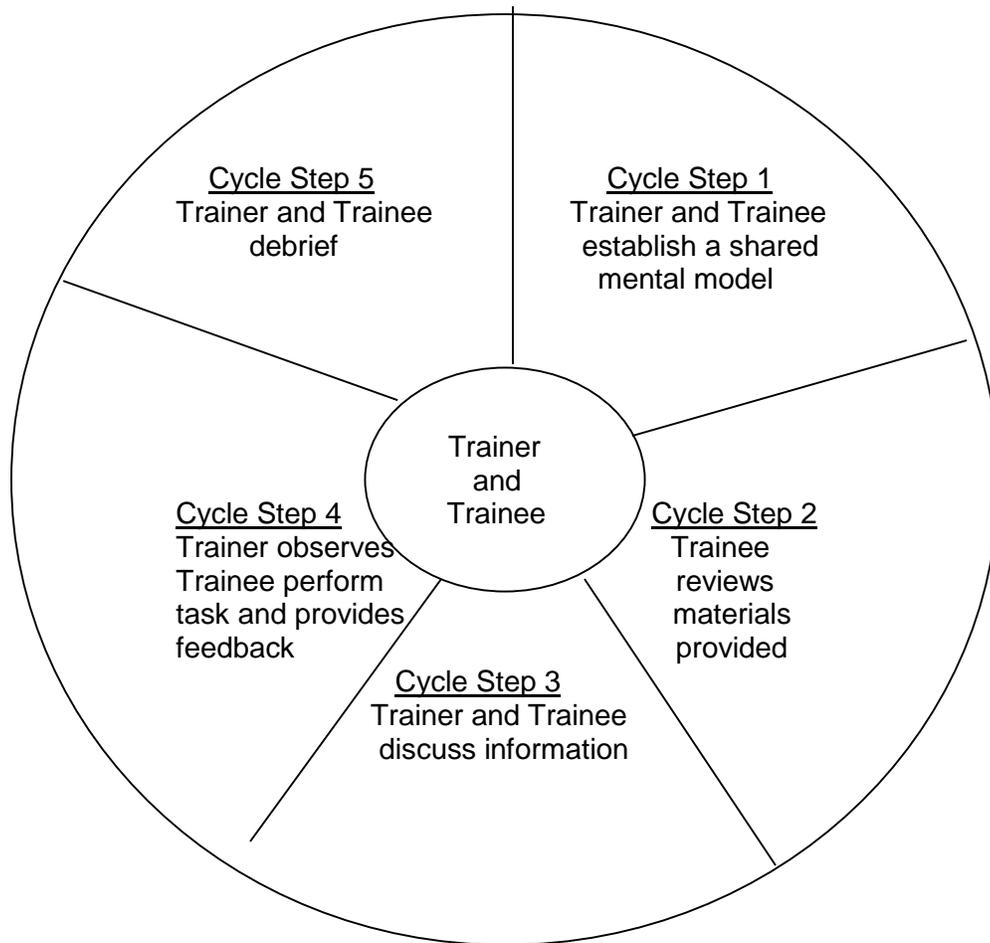
Marc Crouch

Approved by:

Marc Crouch

Craig Ditzler

The Five-Step OJT Cycle for Declarative Training (Knowledge)



OJT Module Lesson

Title: 201 How to use <i>Soil Taxonomy</i> and the <i>Keys to Soil Taxonomy</i> – Overview	
WHAT	WHY, WHEN, WHERE, HOW, SAFETY, QUALITY
Cycle Step 1	Review module objectives.
Cycle Steps 2 through 4	<p>Because this is an overview of Soil Taxonomy, you should lead the trainee through a review as follows:</p> <p>First, access via the internet the current <i>Soil Taxonomy</i> and <i>Keys to Soil Taxonomy</i>.</p> <p>Also locate via the internet the <i>Guide to Pronouncing Taxonomic Terms</i>. You and trainee should use this guide as needed during training related to Soil Taxonomy.</p> <p>If the trainee is new to classifying soils, consider also accessing and using the <i>Illustrated Guide to Soil Taxonomy</i> in the initial stages of training. You and trainee should note the limitations of this guide as stated in its Foreword.</p>
Review Table of Contents of both <i>Soil Taxonomy</i> and the <i>Keys to Soil Taxonomy</i> .	<ol style="list-style-type: none"> 1. Note chapters in <i>Soil Taxonomy</i> (ST) that are not in the <i>Keys to Soil Taxonomy</i> (Keys), and... 2. Review the contents of each: <ul style="list-style-type: none"> ▪ Soil Taxonomy and Soil Classification ▪ Application of Soil Taxonomy to Soil Surveys ▪ The Categories of Soil Taxonomy ▪ Nomenclature ▪ Soils of the United States ▪ World Distribution of Orders and Suborders
	<ol style="list-style-type: none"> 1. Note the chapter in the <i>Keys to Soil Taxonomy</i> that is not in <i>Soil Taxonomy</i>, and 2. Review the contents: <ul style="list-style-type: none"> ▪ Designations for Horizons and Layers
Compare materials of coincident chapters of ST and Keys , and discuss the differences in the material each provides.	<p>Chapter titled “The Soils That We Classify”</p> <ul style="list-style-type: none"> ▪ Keys has briefer material. ▪ ST includes paragraphs regarding the Russian concept and its influence on ST. ▪ ST includes the section “The Pedon, a Unit of Sampling.”
	<p>Chapter titled “Differentiae for Mineral Soils and Organic Soils”</p> <ul style="list-style-type: none"> ▪ Note that Keys (current edition) and ST (current edition) are identical except for the

<p>Compare materials of coincident chapters of ST and Keys, and discuss the differences in the material each provides.</p>	<p>amendments to the most recent publication of ST, which will be included in the next publication of Keys.</p>
	<p>Chapter titled "Horizons and Characteristics Diagnostic for the Higher Categories"</p> <ul style="list-style-type: none"> ▪ Keys has briefer material. ▪ Keys provides Required Characteristics the same as ST (exception for any amendments to the most recent publication of ST, which will be included in the next publication of Keys). ▪ ST provides a more in-depth explanation of each horizon or characteristic and the properties of each.
	<p>Chapter titled "Identification of the Taxonomic Class of a Soil"</p> <ul style="list-style-type: none"> ▪ ST and Keys have nearly identical explanatory material. ▪ Sections on Key to Soil Orders are identical, except for amendments since 1999, which will be included in the next publication of Keys. ▪ Note the following paragraphs (same in both Keys and ST): <ul style="list-style-type: none"> ○ Paragraph 2 – rounding ○ Paragraph 3 – color criteria ○ Paragraphs 4-6 – sequential use of key, selection at each level of the first class that the soil meets
	<p>Chapters for each <i>soil order</i> (12)</p> <ul style="list-style-type: none"> ▪ Keys provides Key to Suborders, Key to Great Groups for each Suborder, and Key to Subgroups for each Great Group. ▪ ST provides: <ul style="list-style-type: none"> ○ Definitions of each order and limits between the order and soils of other orders ○ A representative pedon and data ○ A discussion and definition of each suborder ○ A definition of each Typic subgroup ○ Descriptions of all subgroups
	<p>Chapter titled "Family and Series Differentiae and Names"</p> <ul style="list-style-type: none"> ▪ Identical information and keying opportunities for classes in both ST and Keys, except for amendments since the last publication of ST, which will be included in the next publication of Keys.

<p>What if there are differences in the information provided?</p> <p>The current <u>printed</u> and online Keys includes all amendments to the current edition of Soil Taxonomy and hence provides the most up-to-date and current information for classification.</p>	<ul style="list-style-type: none"> ▪ Take trainee online to see what is available at the NRCS-Soils website under “Soil Classification.” <ul style="list-style-type: none"> ○ <i>Soil Taxonomy</i> <ul style="list-style-type: none"> ▪ Text ▪ Maps ▪ Errata sheet (only contains edits made shortly after release, does not include any amendments) ○ Proposals to Amend <i>Soil Taxonomy</i> <ul style="list-style-type: none"> ▪ From international committees ▪ From other sources ○ The <i>Keys to Soil Taxonomy</i> <ul style="list-style-type: none"> ▪ Keys, current edition ▪ Summary of changes ▪ Previous versions ▪ Spanish version ▪ Ordering the <i>Keys to Soil Taxonomy</i>
<p>What is required to study the nature of a soil?</p> <p>A pedon extracted from the surface to the base of the soil in some manner.</p>	<ul style="list-style-type: none"> ▪ You and trainee read the section “The Pedon, a Unit of Sampling” in chapter 1 of <i>Soil Taxonomy</i>. ▪ Discuss the “pedon.”
<p>What is required to differentiate soils at the higher categories of taxonomy (order, suborder, great group)?</p> <p>“Horizons and Characteristics Diagnostic for the Higher Categories” as defined in ST and Keys.</p>	<ul style="list-style-type: none"> ▪ Complete a brief overview of this chapter in chapter 4 of ST or chapter 3 of Keys. ▪ Place emphasis on diagnostic horizons and characteristics found in your soil survey area.
<p>For some soils, subgroups address features that are important markers of sets of processes as in the higher categories.</p>	<p>Subgroups are defined in <i>Soil Taxonomy</i>. Refer to text and review the three major kinds of subgroups:</p> <ul style="list-style-type: none"> ○ Typic ○ Intergrades ○ Extrgrades <ul style="list-style-type: none"> ▪ Use the example in ST of aquic conditions to discuss the two concepts of the subgroup listed in the boxes to the left. ▪ Use examples of multiple subgroups for a great group in your soil survey area.
<p>For other soils, subgroups indicate traits showing where dominant processes have been modified.</p>	

<p>What is the intent of families?</p> <p>The intent of families is to group soils within a subgroup having similar physical and chemical properties that affect their responses to use and management.</p>	<ul style="list-style-type: none"> ▪ Look at ST and Keys for a list of family names. Compare the two lists for any differences. ▪ Look at chapter 17 of Keys and/or chapter 21 of ST and discuss the families recognized in your soil survey area.
<p>What is the intent of the series?</p>	<ul style="list-style-type: none"> ▪ Review the series as defined in ST. ▪ Select a subgroup from your soil survey area and find the series within it that are recognized in your soil survey area. ▪ Discuss briefly how and why the various soils are the same but different at the same time: same order, suborder, great group, subgroup, and family but different series. ▪ Review “Series Differentiae within a Family” in ST, and discuss briefly how series in the same family are differentiated and why (Keys also has a brief section).
<p>From order to series...</p>	<p>Provide an overview of how to go from the higher categories to a series.</p> <ul style="list-style-type: none"> ▪ A pedon is extracted from the soil. ▪ Diagnostic horizons and characteristics are used to key down through the higher categories. <ul style="list-style-type: none"> ○ Decisions are based upon observed, inferred, or measured data. ▪ Subgroups relate to the diagnostic horizons and characteristics or subdivisions of the same. <ul style="list-style-type: none"> ○ Decisions are based upon observed, inferred, or measured data. ▪ All subgroups are divided, and one or more of nine families group like soils within the subgroup. <ul style="list-style-type: none"> ○ Decisions are based upon observed, inferred, or measured data. ▪ Families are further divided into series. <ul style="list-style-type: none"> ○ Decisions are based upon observed, inferred, or measured data.
<p>Cycle Step 5</p>	<p>Answer any questions from the trainee.</p>

OJT Module Lesson Measurement of Learning

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WHAT	WHY, WHEN, WHERE, HOW, SAFETY, QUALITY
Quiz	Complete the quiz below.

SF-182

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

Quiz

1. If I am confused about what a particular diagnostic horizon really is, I could go to _____ to find all the information I need.
 - a. ST
 - b. Keys
2. Amendments are captured in _____.
 - a. ST
 - b. Keys
3. Descriptions of subgroups are found in _____.
 - a. ST
 - b. Keys
4. If I am keying out a soil, I could use a printed hard copy of either one (ST or Keys) and feel confident that I will reach the correct conclusion.
 - a. True
 - b. False
5. If I am keying out a soil, I could use an online ecopy of either one (ST or Keys) and feel confident that I will reach the correct conclusion.
 - a. True
 - b. False
6. I could use the errata sheet found on the website to make changes to my hard copy of *Soil Taxonomy*, and then I would be up-to-date with amendments.
 - a. True
 - b. False
7. If I need definitions for horizon and layer designators, I should refer to _____.
 - a. ST
 - b. Keys
8. No amendments have been made to the family criteria since 1999.
 - a. True
 - b. False