

OJT Training Module Cover Sheet

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

Type: Skill Knowledge

Performance Objective: Trainee will be able to...

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

Trainer Preparation:

- Review this module

Special Requirements:

None

Prerequisite Modules:

None

Procedure:

- Discussion with trainee
- Have Soil Taxonomy and Keys to Soil Taxonomy laid out side by side

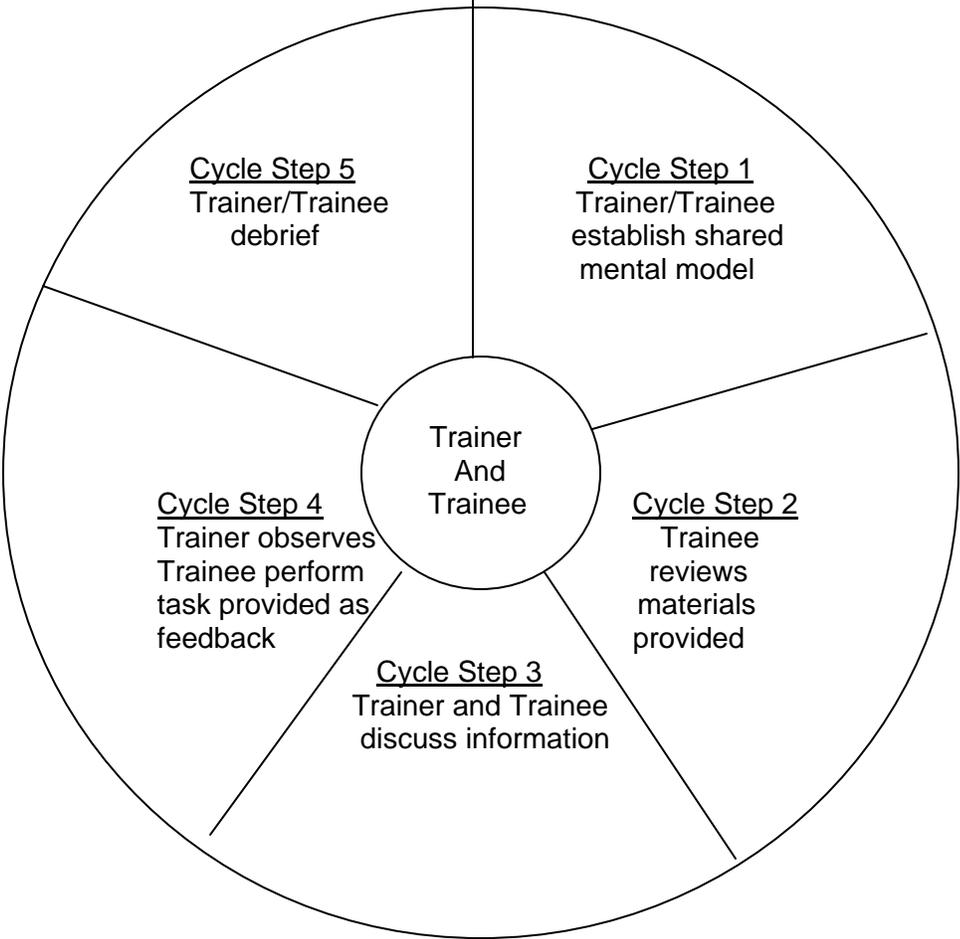
Notes/Purpose:

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Approved by:

The Five Step OJT Cycle for Declarative Training



OJT Module Lesson

Title: How to use Soil Taxonomy and the Keys to Soil Taxonomy	
WHAT	WHY, WHEN, WHERE, HOW, SAFETY, QUALITY
Cycle step 1	Review module objectives and procedures
Review Table of Contents of each, Soil Taxonomy and Keys to Soil Taxonomy	<ol style="list-style-type: none"> Note chapters in Soil Taxonomy (ST) that are not in Keys to Soil Taxonomy (Keys), and Review the contents of each <ul style="list-style-type: none"> <i>Soil Taxonomy and Soil Classification</i> <i>Application of Soil Taxonomy to Soil Surveys</i> <i>The Categories of Soil Taxonomy</i> <i>Nomenclature</i> <i>Soils of the United States</i> <i>World Distribution of Orders and Suborders</i>
	<ol style="list-style-type: none"> Note the chapter in Keys to Soil Taxonomy that is not in Soil Taxonomy, and Review the contents <ul style="list-style-type: none"> <i>Designations for Horizons and Layers</i>
Compare materials of coincident chapters of ST and Keys and discuss the differences in material provided within each	Chapter: <i>The Soils That We Classify</i> <ul style="list-style-type: none"> Keys has briefer material ST includes paragraphs regarding the Russian concept and its influence on ST ST includes a section on “<i>The Pedon, a Unit of Sampling</i>”
	Chapter: <i>Differentiae for Mineral Soils and Organic Soils</i> <ul style="list-style-type: none"> Note that Keys (10th Edition) and ST (2nd Edition) are identical except for amendments since 1999 that will be included in Keys
	Chapter: <i>Horizons and Characteristics Diagnostic for the Higher Categories</i> <ul style="list-style-type: none"> Keys has briefer material The Keys provides Required Characteristics same as ST ST provides a more in-depth explanation of each horizon or characteristic and their properties
	Chapter: <i>Identification of the Taxonomic Class of a Soil</i> <ul style="list-style-type: none"> Nearly identical explanatory material Key to Soil Orders sections are identical except for amendments since 1999 that may be included in Keys

<p><i>Continued:</i> Compare materials of coincident chapters of ST and Keys and discuss the differences in material provided within each</p>	<p>Chapters: <u>For each soil Order</u> (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, with 1999 Keying information: <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 ○ Each Suborder is discussed and defined ○ A definition of each Typic Subgroup ○ Descriptions of all Subgroups <p>Chapter: <i>Family and Series Differentiae and Names</i></p> <ul style="list-style-type: none"> ▪ Identical information and Keying opportunities for classes in both ST and Keys except for amendments since 1999 that will be included in 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 Soil Taxonomy (Second Edition, 1999) through 2006 and hence is the more up-to-date and current information for classification than the <u>printed</u> or <u>online</u> ST.</p>	<ul style="list-style-type: none"> ▪ Take the employee online to see what is available under Technical References-Soil Classification on the soils.usda.gov website <p>http://soils.usda.gov/technical/classification/</p> <ul style="list-style-type: none"> ○ Soil Taxonomy <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 ○ Keys to Soil Taxonomy <ul style="list-style-type: none"> ▪ Keys, 10th Edition ▪ Summary of changes ▪ Previous versions
<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 by some manner.</p>	<ul style="list-style-type: none"> ▪ You and the trainee read the section “<i>The Pedon, a Unit of Sampling</i>” in chapter 1, (page 10) of Soil Taxonomy. ▪ Discuss the “pedon”

<p>What is required to differentiate soils at the higher categories of a taxonomy (Order, Suborder, Great Group)?</p> <p><i>Horizons and Characteristics Diagnostic for the Higher Categories</i> as defined in chapter 4 of ST or chapter 3 in Keys</p>	<ul style="list-style-type: none"> ▪ Complete a brief overview of this chapter in ST (chapter 4) or Keys (chapter 3) ▪ Place emphasis on diagnostic horizons and characteristics found in your soil survey area
<p>Subgroups address features that are important markers of sets of processes as in the higher categories</p>	<p>Subgroups are defined on pages 122-123 of Soil Taxonomy. Take a look and review the three major kinds of Subgroups:</p> <ul style="list-style-type: none"> ○ Typic ○ Intergrades ○ Extragrades <ul style="list-style-type: none"> ▪ Use the example in ST of aquic conditions to relate to these two concepts of the subgroup ▪ Use other examples of multiple subgroups for a great group in your soil survey area
<p>In other soils, subgroups show traits of 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 management and manipulation for use.</p>	<ul style="list-style-type: none"> ▪ Look at page 123 in ST and page 295 in Keys for a list of family names. 7 are numbered in ST and 9 in Keys but #7-9 in Keys are the same as #7 in ST. ▪ Look at chapter 17 in Keys or chapter 21 in 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 on page 123 of ST ▪ Select a subgroup from your soil survey area and take a look at the series within it recognized in your soil survey area ▪ Discuss briefly how and why they are the same but different at the same time – same order, suborder, great group, subgroup, family but in different series ▪ Discuss briefly how series in the same family are differentiated and why

From Order to Series...	<p>Provide an overview as a review of how you get from the higher categories to a series</p> <ul style="list-style-type: none">▪ A pedon extracted from the soil▪ Diagnostic horizons and characteristics used to drill down through the higher categories<ul style="list-style-type: none">○ Decisions 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 based upon observed, inferred, or measured data▪ All subgroups are divided and 1 or more of 9 families group like soils within the subgroup.<ul style="list-style-type: none">○ Decisions based upon observed, inferred, or measured data▪ Families are further divided into series<ul style="list-style-type: none">○ Decisions based upon observed, inferred, or measured data
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Measurement of Learning Quiz

1. If I am really hung up on 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 a soil out, I could use printed hardcopy of either one (ST or Keys) and feel safe that I will reach the correct conclusion.
 - a. True
 - b. False
5. If I am keying a soil out, I could use ecopy of either one (ST or Keys) and feel safe that I will reach the correct conclusion.
 - a. True
 - b. False
6. I could use the errata sheet found on the website and make changes to my hardcopy of Soil Taxonomy and 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

Trainee OJT Performance Report Form

Trainee's Name: _____ Job Title: _____

Trainer's Name: _____ Date: _____

Task (module title)	Date(s) of Training	Rating		Trainer's Comments
		Acceptable	Unacceptable	

Additional Trainer's comments:
Trainee's Comments:
Action to be taken if unacceptable:

Signatures

Trainee	Date
Trainer	Date
Supervisor, if different	Date