<table>
<thead>
<tr>
<th>Title:</th>
<th>104 Understand the differences between soil properties and qualities.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type:</td>
<td>☑️ Knowledge</td>
</tr>
<tr>
<td>Performance Objective:</td>
<td>Trainee will be able to …</td>
</tr>
<tr>
<td></td>
<td>• Recognize the difference between a soil property and a soil quality.</td>
</tr>
<tr>
<td>Target Proficiency:</td>
<td>☑️ Apply Independently ☑️ Proficiency, can teach others</td>
</tr>
<tr>
<td>Trainer Preparation:</td>
<td>Trainer should be familiar with the assigned reading/review material in the lesson plan that follows.</td>
</tr>
<tr>
<td>Special Requirements:</td>
<td>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.</td>
</tr>
<tr>
<td>Prerequisite Modules:</td>
<td>None</td>
</tr>
<tr>
<td>Notes:</td>
<td>None</td>
</tr>
<tr>
<td>Authors:</td>
<td>Marc Crouch</td>
</tr>
<tr>
<td>Approved by:</td>
<td>Shawn McVey</td>
</tr>
</tbody>
</table>
The Five–Step OJT Cycle for Declarative Training

(Knowledge)

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

- **Cycle Step 2**
  - Trainer reviews materials provided

- **Cycle Step 3**
  - Trainer and Trainee discuss information

- **Cycle Step 4**
  - Trainer observes
  - Trainee perform task provided as feedback

- **Cycle Step 5**
  - Trainer/Trainee debrief
## OJT Module Lesson

**Title:** 104 Understand the differences between soil properties and qualities

<table>
<thead>
<tr>
<th>WHAT</th>
<th>WHY, WHEN, WHERE, HOW, SAFETY, QUALITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cycle step 1</td>
<td>Trainer and trainee review the objective and agree on the purpose of this module.</td>
</tr>
</tbody>
</table>
| Cycle step 2  | Have trainee access via the internet and read/review:  
  - NSSH Part 618, section 618.0 Definition and Purpose.  
  - NSSH Part 618, sections 618.03 through 618.72. |
| Cycle step 3  | 1. Discuss the difference between soil properties and soil qualities as they are defined in the NSSH.  
  2. After reviewing 618.03-618.72, look at the 232 Soil Description form and discuss the soil properties (which you measure) and the soil qualities (inferred from the properties) that we describe there.  
  3. Discuss the seven soil properties that we should describe and that most soil qualities are inferred from (using 2 or more of the 7)  
    i. Sand  
    ii. Silt  
    iii. Clay  
    iv. Fragments  
    v. Organic matter  
    vi. Bulk density  
    vii. Water states  
  4. Many have referred to at least some of the soil qualities listed in 618.04-618.72 as soil interpretations (for example, drainage class, texture, and hydrologic group). Note to the trainee that this distinction is a matter of semantics and not a difference in definition. |
| Cycle steps 4 & 5 | Answer any questions from the trainee and make sure the trainee is comfortable with differences. |
OJT Module Lesson Measurement of Learning

Title: 104 Understand the differences between soil properties and qualities

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<tr>
<th>WHAT</th>
<th>WHY, WHEN, WHERE, HOW, SAFETY, QUALITY</th>
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<tbody>
<tr>
<td>Quiz</td>
<td>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 properties are measured or inferred from direct observations in the field or laboratory.
   a. True
   b. False

2. Soil qualities are behavior and performance attributes that are not directly measured.
   a. True
   b. False

3. Bulk density is a:
   a. Property
   b. Quality

4. Calcium carbonate equivalent is a:
   a. Property
   b. Quality

5. Corrosion is a:
   a. Property
   b. Quality