



Tennessee Specific Industry Certification Horticulture Science Content Area Resource

This Tennessee Specific Industry Certification (TSIC) resource provides additional guidance as you prepare your horticulture science instructional materials. The general knowledge and skills are provided as a guide for developing lessons and lab activities that lead to deeper understanding of content. The list of sample terms are just that, a list of industry-specific terms that will build each student's knowledge base for this content area.

General knowledge and skills for Plant and Soil Science

- Explain how soil fertility is determined and how plant nutrient deficiencies are identified.
- Describe potential ways to improve soil fertility.
- Determine soil health based on provided in scenarios.
- Apply diagnostic skills to address soil constraints, irrigation, nutrients, and stress issues.
- Identify and describe the characteristics of the major soil types.
- Explain the capillary action process as it relates to soil.
- Describe a soil profile with details with the significance of each layer.
- Describe in detail what is meant by soil judging, what aspects are determined through soil judging and methods used to evaluate soil.
- Create a remediation plan for a plot of land that has been depleted.
- Describe the correlation of the Munsell color chart as it relates to its organic and mineral content of soil.

Sample terms associated with content area:

- "A" soil horizon
- "B" soil horizon
- "C" soil horizon
- "O" soil horizon
- Acre
- Alkaline
- Aluminum
- Calcium
- Capillary action
- Capillary force
- Capillary tube
- Capillary tubes
- Carbon
- Cation exchange
- Clay
- Clay loam soil
- Cohesion
- Compaction erosion
- Concave
- Convex
- Cover crops
- Dolomitic liming
- Electrical conductivity meter
- Equilibrium
- Fluorine
- Grassed waterways
- Groundwater
- Horticulture
- Humus
- Hydrometer
- Iron
- Lime
- Loamy soil
- Magnesium
- Manganese
- Meniscus formation
- Monoculture
- Munsell color chart



- Nitrogen
- No-till program
- Olericulture
- Oxygen
- Peds
- Permeability
- Ph range
- Phosphorus
- Plow
- Potassium
- Potassium
- Reduced tillage program
- Sand
- Sandy loam soil
- Sandy soil
- Silt
- Single ring infiltrometer
- Soil class
- Soil color
- Soil compaction
- Soil mass
- Soil particles
- Soil probe
- Soil profile
- Soil sample
- Soil survey
- Soil textural
- Soil texture triangle
- Soil types
- Soluble salts
- Stokes' Law
- Strip cropping
- Sulfur runoff
- Surface tension
- Texture
- Topography
- Toxic
- Water erosion
- Water holding capacity
- Wind erosion
- Windbreaks