Soil Objectives

1. Know and understand the 5 soil forming factors, their influence on soil properties, and the soil forming processes.
   PSS-10.1 Explain the process of soil formation through weathering
   PSS-10.2 Demonstrate techniques used to identify soil types
2. Know basic characteristics of the 12 soil taxonomic orders and know what soil orders are in Indiana.
   PSS-10.2 Demonstrate techniques used to identify soil types
3. Be able to recognize and identify features of soil profiles, properties, characteristics, structures, and be able to determine soil texture.

   PSS-10.2 Demonstrate techniques used to identify soil types
4. Understand that soil fertility relates to physical and chemical properties of the soil including quantity of nutrients essential for plants, and why it reflects the physical, chemical, and biological state of the soil.

   PSS-14.2 Identify key indicators of soil health

   PSS-14.3 Describe the biodiversity (earthworms, nematodes, and microorganisms) found in soil and the contribution to soil health

   PSS-14.5 Contrast pH and cation exchange capacity between different soil types
5. Be able to define soil health and identify the 4 key principles and conservation practices that can be used to build soil health.

   PSS-14.2 Identify key indicators of soil health
6. Recognize the importance of soil and that biological diversity is important for soil health and the health of those connected to the soil.

   PSS-14.2 Identify key indicators of soil health

   PSS-14.3 Describe the biodiversity (earthworms, nematodes, and microorganisms) found in soil and the contribution to soil health

   PSS-10.3 Report examples of how humans are dependent upon soil, directly or indirectly, for their food, clothing, and shelter
7. Understand the relationships of soil ecosystems as well as hydrologic, carbon, and nutrient cycles to soil management.

   PSS-14.3 Describe the biodiversity (earthworms, nematodes, and microorganisms) found in soil and the contribution to soil health
8. Understand how different land uses and conservation practices impact soils and erosion, and the importance of soil management to agriculture/rural areas, urban environments, and to clean water, including point and non-point source pollution.

PSS-12.1 Identify the categories of soil water

PSS-12.2 Discuss how soil drainage and water holding capacity can be improved

PSS-12.3 Assess the physical qualities of the soil that determine its potential for filtration of groundwater supplies and the likelihood of flooding

PSS-12.4 Describe properties of watersheds and identify the boundaries of local watersheds

9. Understand key terminology relating to soils and land use.

   PSS-13.1 Propose management practices and cropping systems when given features and land capabilities that would help improve the usefulness of the land

10. Identify partnering agencies of the Indiana Conservation Partnership and be aware of the programs that assist land users with soil issues.

    PSS-8.4 Research and summarize production methods focused on soil management (e.g., crop rotation, cover crops, etc.)

    PSS-13.1 Propose management practices and cropping systems when given features and land capabilities that would help improve the usefulness of the land

    PSS-13.3 Explain how the programs and services provided by conservation agencies contribute to successful soil management