

Presentation Outline

Name: Fatima Berrios

Title: Dig it; The Hidden World of Soils

Lesson Objectives:

- The student will investigate and understand how soils are influenced by geologic processes.
- The students will understand the critical functions of soils in terrestrial ecosystems
- The student will explore soil taxonomy and major differences among them
- The students will learn the geologic features of soil profiles
- The students will ultimately be exposed to basic soil chemistry and have the opportunity to investigate soils in an hands-on activity

Format of Presentation:

Introduction: Personal Information

- Small elevator speech (**3 minutes**)
 - Virginia tech student
 - Small Pinemap summer overview
 - Talk about soils and begin to introduce soils

Body

- Talk about the five soil forming factors and explain them briefly (**10minutes**)
 - Time
 - Old soil vs. young soils
 - Topography
 - Parent material
 - Chemical weathering
 - Physical weathering
 - Organisms
 - Microbes
 - Climate
- Talk about the functions of soils (**10 minutes**)
 - Support for homes, trees, building/construction
 - Nutrients for plants, and habitat for plants/animals
 - Carbon sinks-modifies the composition of atmosphere
 - Microbes as decomposers-recycles materials
 - Sewage/landfills
 - Controls flow of water
- Introduction to soil properties and taxonomy (**15 minutes**)
 - Soil textures (sand, silt, clay) –activity
 - Explain the flow and retention of water of each
 - Show example
 - Soil characteristics (color and their meanings)
 - Introduce soil horizons and explain each one briefly -activity
 - Introduce the major soil orders and briefly explain them (12 total but might just do Virginia's and the most distinguished one to not overwhelm them)

- Soil roles in Environmental Management **(15 minutes)**
 - Need for management: erosion, runoff, sedimentation, degradation
 - Forestry BMPs
 - Explain what BMPs are
 - Give reasons why we need them
 - Give examples of BMPs
 - Why Soil Health is Important
 - Agriculture
 - Support for trees and roots
 - It's literally what feeds us
- Conclusion **(5 minutes)**
 - Wrap up everything with brief summary of how cool soils are
 - Allow room for questions and discussions

Total time: about 60 minutes