

## Short Essay: The Importance of Soil Properties

**Directions:** Write an answer to each of the questions below.

### Questions

1. Consider the following soil properties: texture, structure, porosity and permeability, pH, and salinity. Describe how each property affects the ability of soil to support plants.
2. Describe the relationship between soil properties and water movement through soil. Why is good water movement through soil important?

### Answers

1. Texture plays an important role in water and nutrient availability. Fine-textured soils generally hold more nutrients than coarse-textured soils. Fine-textured soils may not provide good water, but coarse-textured soils may have too much drainage. Thus, the best texture is a loamy texture, or a good balance of fine and coarse textures together. Structure plays a role in how well water and nutrients can move downward through a soil. Porosity and permeability also influence how well materials can move through the soil. They describe the amount of open space in a soil and how much those open spaces are connected. Soil pH affects how nutrients are available to plant roots, and salinity can affect plants because too much salinity causes plants to die.
2. Water moves downward faster through sandy soil than through clay soil. It also moves faster through soil with granular structure because of the larger number of connected pores and the more direct pathway. Good water movement gets needed water to plant roots.