Soil is a complex mixture of living organisms and organic material, along with minerals and other abiotic components. Soils help sustain life and support ecosystem functions.

1. Describe how TWO climate factors affect the rate of soil formation.
2. As soils form, distinct layers known as horizons develop over time. One of these is the A horizon.
   * 1. Identify one specific biotic component of the A horizon.
     2. Identify one abiotic component of the A horizon.

Resources such as soil and water can be degraded by human Activities.

1. Nitrate levels exceeding the United States Environmental Protection Agency’s primary drinking water standard have been found in the groundwater of areas with intensive agriculture.
   * 1. Identify one agricultural practice that can lead to elevated nitrate levels in groundwater.
     2. Describe how the practice you identify in (c) (i) leads to elevated nitrate levels in groundwater.
2. Acid deposition has affected soil quality in many parts of the northeastern United States.
   * 1. Explain one way acid deposition onto soil can affect plant health.
     2. Describe one method for remediating soil affected by acid deposition.
3. Climate change is causing far-reaching ecosystem changes, including soil degradation in many of the world’s biomes. Describe TWO ways that climate change can degrade soil.