Chapter 5: Soil Classification, Soil Survey, and Interpretations of Soil

Goals:

Students who complete this module will know and be able to:

- Observe the patterns of soil types across the globe.
- Describe the process of soil taxonomy.
- Relate the 12 major soil orders to the CLORPT factors.
- Explain how soil classification allows for selecting the most suitable uses of soil and reduces human impacts on natural systems.

Engage: Nails, Bolts, Screws

Introduction to Classification

Students complete a sorting exercise and answer the following questions.

1. What were your criteria for separating the objects?

2. Do you see additional ways that you might separate the objects? (e.g. color, length, materials)

3. What purpose might you find in sorting objects? (storage, use, value, rarity)

4. Do the objects have different characteristics that could define their use?

Explore: Describing and Classifying Soil

Part A. Soil Postcards
Students will complete activity online.

Part B. Soil Genesis and Development
Step 1. Soil Forming Factors
Online quiz questions and answers can be found here:
https://passel2.unl.edu/view/lesson/2b7d02fa1538

Step 2. Soil Classification and Geography
Online quiz questions and answers can be found here:
https://passel2.unl.edu/view/lesson/2eafec8dd762

Explain: Soil Orders and Biomes

Part A. Gallery Walk

Student teams share their promotional brochure/poster highlighting the features of the soil order from their selected location. They seek to answer the following questions.

1. Which biomes are more affected by temperature?

2. Which by precipitation?

3. How are the biomes connected to the soils?

4. Why do you think there are different soil orders in a single biome?

Elaborate: Use Keys to Identify Soils

Part A. Identify Soil Orders as a Degree of Development

See student exercise attached to website.

Part B. Use Dichotomous Keys to Classify Soil

See student exercise attached to website.

Evaluate: Soil on Planet Zeus

Students complete an online activity “Explore Planet Zeus” and/or answer test questions linked to the website.