Leader’s Guide

Environmental Science — The Soil Web

In this activity, students will build a web that connects everyday objects to the soil, learning that soils support many important products and services.

Set Up:
1. Print out a variety of pictures of everyday objects. Also, have some blank sheets so students can make up their own objects. Tie a string to them so they can be worn as nametags (optional).
2. Print a picture of soil and set it in the middle of the room or in the middle of the wall.
3. Print out pictures of intermediate products.
4. Cut lengths of ribbon or string (4-5 feet, one for each student) and affix one end to the picture of the soil.

Notes:
- The web can be built on the wall (requires tape) or in the middle of the floor.
- Printing on cardstock or laminating lets you reuse the pictures for multiple groups.
- If you have a small space, print out pictures on notecards rather than full sheets.

Introduce the Activity
Ask: Have you thought about the soil today? Did you know that you’ve already relied on the soil in many ways this morning, without even knowing it?

The Soil Web
Step 1: A soil chain. Hand out the pictures of objects. You could pass them out randomly, or ask students to name an item they used this morning, and hand them the corresponding picture. Ask your students to think about how that object is derived from soil and to draw a chain representing this relationship. Provide an example if they need inspiration:
T-shirt —> Fibers/Textiles —> Crops (cotton) —> Soil
Some objects may have more than one link to the soil. For example, furniture requires both lumber and fiber. If the students identify both, great. If not, that’s OK; they can just focus on one linkage. Have students work in small groups to share their chains with each other and discuss.

Step 2: Create the soil web. Have students attach one end of the yarn to the soil picture and hold the other with their object. Have them identify intermediates in their soil chain and clip them to the yarn. Note that multiple objects will share the same intermediate steps, so students will have to work together to build this web.

Variation: Print mini versions of the objects, attach to magnets, and arrange on a magnetic black/white board. Draw the links between the objects.

Generalize and Apply
Ask your students to take the perspective of various professions, and think about why soil is important from their perspective.

Adapted from:
The Soil Chain. Utah State University Cooperative Extension. (utah.agclassroom.org)
Soil in My Food Web. Utah State University Cooperative Extension. (utah.agclassroom.org)
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Have YOU thanked a soil today?

Activity: Soil Web

Your leader will give you an object. Draw the chain that links this object to soils:

My object:

Soil

Reflections

What do you think soil means to a...

Farmer?

Construction worker?

Miner?

Soil scientist?

Earthworm?

Oak tree?

Restaurant owner?

You?

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The Soil Web

Notes:

🌟 – “Soil” goes in the center of the web

🟢 – Items with green dots are everyday objects and will be the outermost part of the web – pass these out to your students. Everyday objects may have more than one link back to soil.

🔵 – Items with blue dots are intermediate products or services that soils provide. These will be the inner links between soils and the everyday objects. Multiple objects may link through the same intermediate.
Answer Key (some possible linkages; note that there may be other possibilities!)

- Electricity
- Toys
- Plastic bag
- Cell phone
- Glass
- Bicycle
- Road
- House
- Gasoline
- Well water
- Septic system
- Antibiotics
- Furniture
- Books
- Guitar
- Jeans
- Rope
- Orange Juice
- French Fries
- Soda
- Egg
- Bacon
- Leather shoes
- Yogurt
- Wool sweater

- Coal, gas, oil
- Rocks and minerals
- Decaying plants and animals
- Soil bacteria
- Water filtration
- Support for structures
- Paper
- Trees
- Lumber
- Fibers and textiles
- Crops
- Livestock
Road
House
Antibiotics
Gasoline
Cell Phone
Plastic Bag
Well Water
Septic System
Furniture
Books
Leather shoes
Jeans
Rope
Glass
Electricity
Bicycle
Soda
French Fries
Yogurt
Wool Sweater
Orange Juice
Toys
Oil, Gas and Coal
Decaying plants and animals
Rocks and minerals
Livestock
Lumber
Trees
Crops
Soil Bacteria
Water Filtration
Support for Structures