

The Soil Chain

*Wyoming Science, Social Studies,
Language Arts*

Objectives:

- Students will be able to identify their relationship to the soil.
- Students will be able to draw a flow chart from common objects to soil.

Background:

Soil is one of our most valuable natural resources. From the soil, we get; food, clothes, as well as the materials used to build the homes we live in. From gardens and farms we get vegetables. Fruit grown on trees and vines come from orchards, groves, and vineyards. Trees also give us valuable lumber and the wood can also be used to make paper, paints and numerous other products. Planted field crops of wheat and corn are used for making flour to make our bread, crackers, pasta, and so many other foods. Nuts and berries come from our farms and forests.

Animal food also comes from the soil. Cows eat grass, hay, silage, and grain to produce milk or meat. All animals eat plants, and plants grow in the soil. In addition to the products listed above, animals supply us with by-products that are used to make paints, camera film, pet food, rubber, crayons, lotions, soaps, leather, medicines, and, the list is long goes on and on.

The fuel that warms our houses comes indirectly from the soil. Coal is made from plants that grew ages ago. Oil and gas also originate from organic materials, possibly including the remains of animals. Some of these things grew in the soil at one time or lived on things that grew in the soil.

Fish from the sea, rivers and lakes live on plants. These plants require dissolved minerals that are washed into the sea, rivers, and lakes from the soil. There are a few exceptions to linking things back to the soil. Here are a few examples: a volcano, the ocean (even though plants are part of the water cycle), and the sky (although plants give off oxygen for the air in the atmosphere).

Activity Procedures:

Activity 1- My Soil Family

1. Show the students the list of 30 objects on page 3. For a variation, you may ask students to help you make a list of 30 objects, things they use everyday.



Standards

Science

Life Systems: 1.3

Earth, Space, &
Physical Systems: 1.4, 1.6

Social Studies

People, Place
& Environments: 5.4

Language Arts

3rd Grade:

Writing: 2.1a, 2.1g

4th Grade:

Writing: 2.1a, 2.1b, 2.1e

Materials

- Paper
- Pencils
- Stapler or glue
- Scissors
- Paper for chain
- Flow chart transparency

Estimated Time

Activity 1 - **60** Minutes

Activity 2 - **30** Minutes

Grades 3-4

vocabulary:

- *by-product*
- *soil*
- *dirt*
- *minerals*
- *organic*
- *water cycle*

2. Ask them to pick five of the objects (or more) and using a flow chart, like the one on the bottom of the transparency, “link” the objects back to the soil. (A flow chart uses lines and arrows to show the relationships or direction of flow between an object or group of objects.)
3. Many of the objects will be linked back to the soil. Some may not. That’s okay. The transparency depicts two of the more difficult objects students may choose to link the soil.
4. After the students have completed their flow charts, have them select one object (or pick a new one) to create a soil chain. Instruct students to cut out strips of paper that will become links in a chain. Each link should be labeled as one of the connections showing the objects relationship to the soil. You might challenge students to create the longest chain and the shortest chain. Note: It is easier to label the links before the ends are stapled or glued together to make the chain.

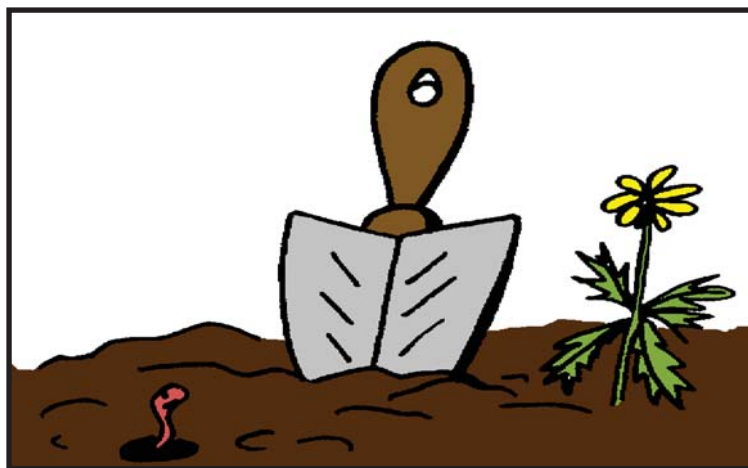
Activity 2- Ranking the Importance of Soil

1. Show the students statements on the transparency master on page 4. Ask them to rank the statements in order of importance.
2. Form groups of five or six students and ask the groups to rank the statements. Ask them to be prepared to explain why they ranked them in that order.

Discussion:

- What can you conclude about the role of soil in your life?
- What would life be like without soil?
-

Materials Adapted from Utah Ag in the Classroom



Rank the following statements in order of importance.
Be prepared to explain why you ranked them in that order.

Soil is important to me....

1. _____ *to grow plants (for food, oxygen, paper, lots of things).*

2. _____ *to filter out pollutants that may contaminate drinking water.*

3. _____ *to provide income for farmers, food companies, clothing companies and grocers, to name a few.*

4. _____ *as a surface for building roads, sidewalks, and the homes where we live.*

5. _____ *to provide wildlife and insect habitat.*

6. _____ *... make up your own.*