

# LESSON PLAN

## Step 2

### LAYERS OF THE PAST

#### Objectives

- Identify methods archaeologists use to relatively date soil layers.
- Interpret soil profiles.

#### Materials

- Copies of Worksheet 2, page 9.
- Five textbooks.
- One notebook.
- Paper labels.
- Adhesive tape.
- Pens, pencils, and markers.
- One coin.

#### Subjects

Social studies, science, language arts

#### Procedure

1. Using the Introduction as a guide, tell your students that archaeologists often study the soil of a site to learn about the past. Ask your students if they have ever dug into the soil (e.g., when putting in a garden or digging a fence post). What did they notice about the color and texture of the soil? Answers may vary, but students will probably conclude that the color and texture of soil change with depth.

Emphasize that soil forms from the gradual decay of organic matter over time. A given soil's layering is determined by the nature of the decaying organic matter (e.g., leaves and logs); weather conditions; and the action of humans, animals, and insects.

2. Explain to your students that they will be learning some of the basic rules archaeologists use to interpret the soil of a site. Ask a student volunteer to place a textbook on your desk (or any other flat surface visible to the entire class). Have the volunteer write the current time on a slip of paper large enough to be seen by the class. Instruct the volunteer to attach the paper to the textbook using adhesive tape. (*If you are using books whose covers damage easily, you may wish to have the volunteer place the paper between two pages of the book, sticking out slightly so as to be visible.*)

3. Select four other student volunteers to repeat lesson step 2. (*Make sure students stack the textbooks on top of each other. At the end of this process there should be five stacked textbooks with slips of paper taped to or inserted in them.*) Ask your students to determine which textbook was laid down first and which textbook was laid

down last. Students should conclude that the textbook on the bottom of the stack was laid down first while the textbook on the top was laid down last. Tell your students that they just learned one of the most important rules of an archaeological excavation: The first layer of soil laid down is usually the last one to come out.

4. Give each student a copy of Worksheet 2. Tell your students that they will now be learning how archaeologists can date soil layers using the artifacts and features they unearth. Ask a student volunteer to read Rule 2 (from Worksheet 2) aloud to the class. Instruct the volunteer to unstack the textbooks and remove the attached slips of paper. Have the volunteer stack two books on top of each other. Provide another student volunteer with a coin, and tell the class to imagine that the coin has just been minted. Ask the volunteer to record the current time on the chalkboard. Choose another student to place the remaining three textbooks on the stack and place the coin within the pages of one of these books. Ask the class to relatively date the "layers" of books from the position of the coin. (*This exercise may be difficult for some students.*

*Be sure to emphasize that the coin provides a reference time from which to determine when the remainder of the books were laid down .)*

Conclude your coverage of Rule 2 by having students complete the questions for Diagram B on the worksheet.

5. Ask a student volunteer to read Rule 3 aloud to the class. Instruct the volunteer to remove the top two textbooks from the stack and place a notebook on top of the three remaining stacked books. Have the volunteer write the current time on a slip of paper and attach it to or insert it in the notebook as was done in lesson step 2. Ask the class to relatively date the layers of books below the notebook. Conclude the activity by having students complete the questions for Diagram C on the worksheet.

#### Answer key to questions for Diagram B on page 9

1. 1895 or later
2. D and E
3. A and B

#### Answers to questions for Diagram C on page 9

1. Before the 1920s
2. A and B

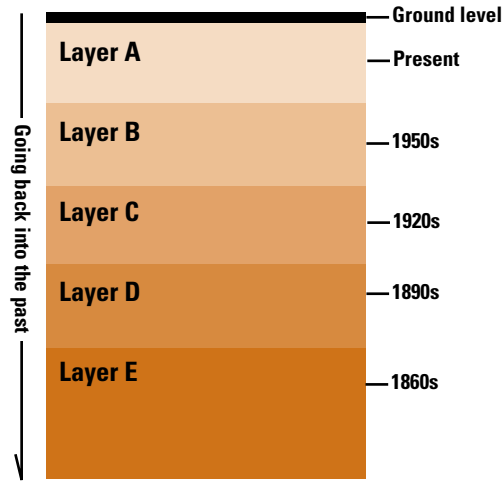
# WORKSHEET 2

## Layers of the Past

### Rule 1

An archaeologist digs down into the past. The top layer of soil is the newest. The bottom layer is the oldest.

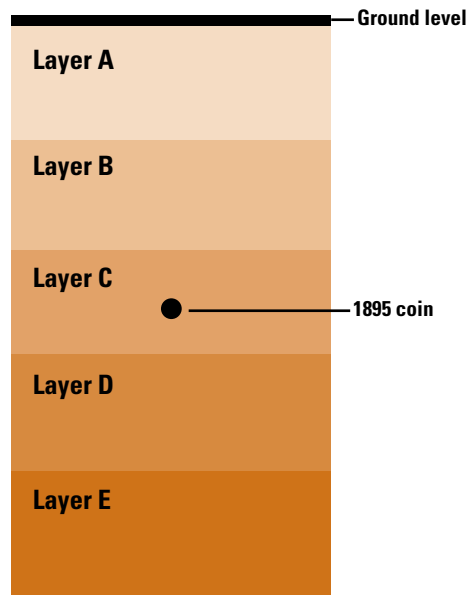
Diagram A



### Rule 2

When a datable artifact (such as a coin) is found, the soil layer it was found in can be dated either after or at the same date as the artifact.

Diagram B



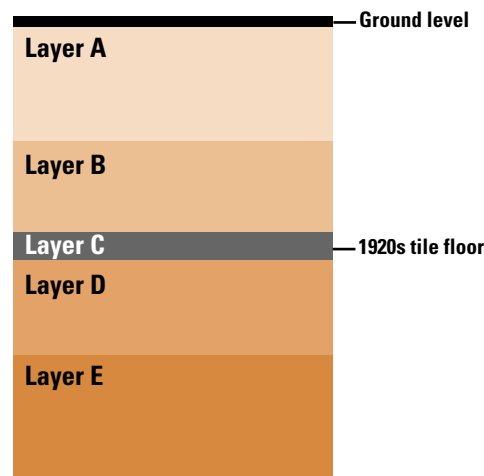
### Questions for Diagram B

1. What appears to be the date of Layer C?
2. Which layers are probably older than Layer C?
3. Which layers are probably newer than Layer C?

### Rule 3

When a solid, undisturbed layer (such as a tile floor) is found, all the soil layers below it date before that layer.

Diagram C



### Questions for Diagram C

1. What appears to be the general date of Layers D and E?
2. Which layers are probably newer than Layer C?