table of contents

Lesson Overview ................................................................. 01
Core Curriculum Tie-Ins ..................................................... 02
About .................................................................................. 03
Lesson Plan ................................................................. 04-05
Vocabulary ................................................................. 06
Resources ................................................................. 07

art starts here™
lesson overview

lesson plan
Designed to extend and enhance the learning experience of our exhibits while linking to core curriculum subject matter.

lesson objectives
- Learn to fold an accordion book form.
- Observe, study and diagram the composition of soil layers.
- (Optional) Explore other classroom applications of the accordion book form as a tool to investigate and collect scientific information.

core curriculum tie-ins
Kindergarten through Fifth Grades: Visual Art and Science.

length of class
One to Three Class Sessions.

lesson overview
On the ARTS tour students will learn about the artwork and ideas of Nicole Pietrantoni. Linking to Pietrantoni’s bookmaking method and nature themes, students will study and create a diagram of the basic horizons of soil in an accordion book.

supplies
- Scrap Copy Paper.
- Legal Size Copy Paper (cut in half along the long side – 2 pieces 4 ¼ X 14 in).
- Pencils.
- Pens.
- Colored Pencils.
- Popsicle Sticks (to use as Bone Folders).
4th grade Visual Arts

Standard 4.V.R.1:
Compare responses to a work of art before and after working in similar media.

4th grade Science

Standard 3 Students will understand the basic properties of rocks, the processes involved in the formation of soils, and the needs of plants provided by soil.

Objective 3 Observe the basic components of soil and relate the components to plant growth.
  a Observe and list the components of soil (i.e., minerals, rocks, air, water, living and dead organisms) and distinguish between the living, nonliving, and once living components of soil.
  b Diagram or model a soil profile showing topsoil, subsoil, and bedrock, and how the layers differ in composition.

SOIL PROFILE - WWW.COMMONS.WIKIMEDIA.ORG
ABOUT

Nicole Pietrantoni: Alas, Alack

Interested in our complex relationship with the natural world, contemporary printmaker Nicole Pietrantoni creates large-scale installations and works on paper that speak to the inevitability of competing stories and representations. Her innovative work combines digital and traditional printmaking techniques, most recently culminating in several series of accordion books that each expand to create panoramic landscapes covering entire walls and spilling out onto the floor. Within these vast pieces, she seeks to engage nature as an accumulation of processes, perceptions, and narratives – a dynamic and shifting site open for interpretation.

Her installations weave, evoke, inspire and invite you to look closer, to delight in the details that in turn offer a complete image unlike any you thought you would experience.
lesson plan

1. Discuss the work of Nicole Pietrantoni and her use of handmade books. Share that an accordion book is a unique form that can be read like a codex (a traditional bound book) but can also be displayed showing all of its pages as a sculpture. Pietrantoni’s unfolded books show images of nature. Explain to students that they will be creating an accordion book to record their own studies of the natural world. In her piece ‘Forced Greens’ Pietrantoni photographs soil. Students will use the accordion book format to diagram layers of soil and explore their composition.

2. Pass out a piece of scrap paper to each student to practice a simple paper fold. Folding paper precisely is an essential requirement for a folded book. Gather students to demonstrate a simple fold. On a table, show students how to line up and secure the edges of the paper carefully with one hand and then how to use a finger from their other hand to press on the center of the fold, starting in the middle and then moving up and down. Finally, demonstrate how to smooth the crease with the side of a popsicle stick. Give students the opportunity to practice a simple fold and then introduce bookbinding vocabulary. Looking at the folded paper, also known as pamphlet, point to the spine. In an accordion book this is also called the measuring fold. Show a mountain fold and a valley fold and point out the head and tail of the book.

3. Pass out the longer piece of paper (4 ¼ in. X 14 in.). Have students follow along while demonstrating. To begin, fold the paper in half short edge to short edge. Emphasize taking the time to line up the edges with the practice paper. Then, with the measuring fold on the right, and the edges and corners on the left, students will bend the top edge to meet the measuring fold (Again, emphasize lining up the edge precisely to the fold). For the final fold, students will flip the paper over with the measuring fold on the left and the edges on the right and bend the top edge to meet the measuring fold. Finally, smooth out all of the creases with the popsicle stick.
4. Now that students have created a basic accordion book ask students to point to valley folds and mountain folds. Identify the cover of the book and have students write their names in the bottom corner of the cover. Number the pages, starting with page one (the backside of the cover) and ending with page four (the inside of the back cover).

5. Set the books aside to study soil composition. Take students on a nature walk to collect soil. Back in the classroom, investigate its composition while looking at the texture. Share that soil is made of four components: rock, organic matter, water and air. The rock (clay, sand or silt) contains minerals for plant growth. Explain that the soil collected on the nature walk was from the surface of the earth. Show a photograph of a soil profile so that students can see the different layers of soil. Additionally, show a sample of subsoil so that students can examine its difference in color and texture to other layers of soils. Explain that a basic soil profile consists of three layers: topsoil, subsoil, and bedrock. Use the resources for further teaching information on the different soil layers and their composition.

6. Using this new knowledge, students will sketch a diagram of a basic soil profile in their accordion book. Each page will depict a layer or horizon of soil. Unfolding the book and orienting it long ways, students can start on page four with the bedrock, add the subsoil on page three, the topsoil on page two and finally the plant growth on page one. Student should depict the composition and texture of each layer with details and color (using pencils and colored pencils). To finish the book, students can title and decorate the front cover.

(Optional lesson) add pages to the accordion book and collect information about Utah rocks. Each page can contain a drawing and descriptions based on students observations of Utah rocks. To add pages, unfold the book with mountain folds facing up. Bring each fold over one by one to meet the left edge. For the last fold the right edge meets the left edge.

---

WWW.SABURCHILL.COM/LAB/FIELD/FIELD02.HTML

SOIL PROFILE
vocabulary

Accordion Book - An accordion book is a folded structure made by simply folding a sheet of paper back and forth in page-width increments.

Bone Folder - A bone folder is a dull-edged hand tool used to fold and crease material in crafts such as bookbinding, card making, origami, and other paper crafts that require a sharp crease or fold.

Codex - A codex is a book where pages are held together with stitching. It is the earliest book form.

Head - The head of a book is the top side of the book.

Horizon - A horizon is a layer of soil with properties that differ from the layers above or below it.

Mountain Fold - On a mountain fold the crease is at the top and the paper is folded 'behind' itself.

Pamphlet - A pamphlet is an unbound printed publication with no cover or with a paper cover.

Spine – A spine is the back of a book cover or binding, usually indicating the title and author.

Symmetrical - The balance of one side to another. In perfect symmetry, one half is an exact mirror of the other.

Tail - The tail of a book is bottom side of a book.

Valley Fold - On a valley fold the crease is at the bottom and the paper is folded onto itself. The paper forms a v shape.
resources

Nicole Pietrantoni:

http://www.nicole-pietrantoni.com

Soil:

http://www.thescienceofsoil.com/teacher-resources
http://www.soils4kids.org/about
https://www.uen.org/lessonplan/view/9876

Accordion Books:

https://bookzoompa.wordpress.com/tag/accordion-book-for-the-classroom/