UNIT: ARTFUL EARTH–EXPLORING ROCKS AND SOILS
SOIL STUDY LANDSCAPES (Lesson 3 of 3)
Grade Band: 3, 4
Content Focus: Visual Arts & Science

LEARNING DESCRIPTION

This arts integrated lesson should be taught after the students are able to identify the types of soil, compare and contrast the types of soil, as well as classify soil based on its attributes. The students will be led through a “Gallery Walk” of photographs of plants and/or animals living in specific types of soil. The students will create a landscape depicting plant life that lives in a specific type of soil.

LEARNING TARGETS

Essential Questions	“I Can” Statements
What are the characteristics of the different types of soil?	I can use visual arts to demonstrate my knowledge of the properties of different types of soils. I can create a landscape that has a background,

How can I use visual arts to demonstrate my knowledge of the properties of different types of soil?	middle ground, and foreground that accurately represents my chosen type of soil.

GEORGIA STANDARDS

Curriculum Standards	Arts Standards
Grade 3: S3E1 Obtain, evaluate, and communicate information about the physical attributes of rocks and soils. S3E1.b Plan and carry out investigations to describe properties (color, texture, capacity to retain water, and ability to support growth of plants) of soils and soil types (sand, clay, loam). S3E1.c Make observations of the local environment to construct an explanation of how water and/or wind have made changes to soil and/or rocks over time.	**Grade 3:** VA3.CR.2 Create works of art based on selected themes. VA3.CR.3 Understand and apply media, techniques, processes, and concepts of two-dimensional art. VA3.CN.2 Integrate information from other disciplines to enhance the understanding and production of works of art.

SOUTH CAROLINA STANDARDS

Curriculum Standards	Arts Standards
Grade 4: 4-ESS1-1. Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time.	**Anchor Standard 1:** I can use the elements and principles of art to create artwork **Anchor Standard 2:** I can use different materials, techniques, and processes to make art. **Anchor Standard 7:** I can relate visual arts ideas to other arts disciplines, content areas, and careers.

KEY VOCABULARY

Content Vocabulary	Arts Vocabulary
• Soil - A natural resource made up of a mixture of minerals, organic matter, air, and water	• Landscape - A work of art that primarily depicts natural scenery, such as mountains, valleys, trees, rivers, and

- Sand - Contains a high proportion of sand particles, which makes it well-draining but less nutrient-rich
- Clay - Contains mostly fine clay particles that retain water and nutrients but drain poorly, which can lead to waterlogging in plants
- Loam - A balanced mixture of sand, silt, and clay; it is ideal for most plant growth because it has good drainage while retaining sufficient moisture.
- Silt - Composed of very fine particles, smaller than sand but larger than clay

- Rock - A naturally occurring solid substance composed of one or more minerals, mineraloids, or organic materials

- Sedimentary rocks - A type of rock that forms from the accumulation, compaction, and cementation of sediments over time

- Metamorphic rocks - A type of rock that forms when existing rocks—either igneous, sedimentary, or other metamorphic rocks—are subjected to high heat, pressure, and/or chemically active fluids over long periods of time

- Igneous rocks - A type of rock that is formed from the cooling and solidification of molten rock (magma or lava)

- Magma - Molten rock that is found beneath the Earth's surface

- Weathering - The process by which rocks and minerals break down into smaller pieces or change chemically due to exposure to environmental conditions such as wind, water, temperature changes, and biological forests

- Texture - The surface quality, or "feel" of an object, such as roughness, smoothness, or softness; actual texture can be felt while implied textures are implied by the way the artist renders areas of the picture

- Color - Reflected or absorbed light; properties of color are:
  - Hue - The name of the color, e.g. red, yellow, etc.
  - Intensity - The purity and strength of the color (brightness or dullness)
  - Value - The lightness or darkness of the color (shades and tints)

- Background - The part of a landscape that appears farthest from the viewer and appears the smallest

- Middle ground - The part of the landscape that is in between the background and the foreground

- Foreground - The part of the landscape that is closest to the viewer and appears the largest

activity • Sediments - Small particles of rock, minerals, organic materials, or other substances that have been broken down or weathered from larger rocks over time	

MATERIALS

- Printed images of plants and or animals living in specific types of soil
- Chart paper
- Markers
- Soil Observation Charts (one per student)
- Mixed media paper
- Oil pastels (alternative–crayons or markers)
- Watercolor paints or tempera cakes
- Paint brushes
- Paper towels
- Water cups
- Image of "Predernal" by Georgia O'Keeffe to project
- Image of parts of a landscape to project

INSTRUCTIONAL DESIGN

Opening/Activating Strategy

- Review the main types of soil: Sand, silt, clay, and loam.
- Discuss their characteristics, including texture, water retention, and nutrient content. Make sure students can differentiate between the types.
- Set up a "Gallery Walk" of photos of plants and or animals living in specific types of soil around the classroom.
- Have students walk around the room in small groups or pairs and observe the images completing their Soil Observation Charts. Ask them to consider the following:
    - What type of soil do you think these plants/animals live in?
    - What textures do you see? How is the texture of each type of soil different?
    - How do you think the soil affects the plant or animal's ability to grow or survive?
    - What does the landscape look like? (E.g., dry and barren, lush and green, etc.)
    - What colors do you see in the images?
- After the Gallery Walk, bring the class together and discuss their observations. Use chart paper or a whiteboard to record the types of soil associated with each image and the plants or animals living there.
    - Be sure to discuss the textures and colors that students noticed were associated with each type of soil.
- Discuss why certain plants or animals thrive in specific soil types, emphasizing the connection between soil properties (like drainage, texture, and water retention) and living conditions.

Work Session

- Explain that students will choose one type of soil and create a landscape depicting plants (optional to include animals, too) that thrive in that specific soil type. They should use visual evidence from the images they looked at to create their landscapes.
- Show students an example of a landscape (such as "Predernal" by Georgia O'Keeffe) and a diagram of the parts of a landscape. Ask students to identify the background, middle ground, and foreground in the landscape artwork.

Create Landscape Artwork:

- Have each student choose one soil type (sand, silt, clay, or loam) and the corresponding plant (optional to also include animal) that lives there.
- Provide the following requirements to students. Landscapes must include:
    - A background, middle ground, and foreground
        - The background should depict the natural environment (e.g., a desert, forest, wetland).
    - Plants (optional–animals) that are well-suited to live in that soil type
    - Visual details that help depict the characteristics of the chosen soil, such as color, texture, and details that represent the environment accurately
- Students should plan their landscape using plain computer paper and a pencil.
    - Demonstrate how to fold paper into fourths and label each section.

Sky
Background
Middle ground
Foreground

- Students will then create their landscape on a piece of mixed media paper.
    - Students should fold their paper first and then sketch in the landscape before adding color.
    - Students should then use watercolor to paint in the main colors in their landscapes.
    - After the watercolor is dry, students can add details and texture with oil pastels, crayons, or markers.

Gallery Share:

- Once students have completed their landscapes, set up a "mini-gallery" by displaying their artwork around the room.
- Have students walk around and observe each other's work, making connections between the soil types and the plants/animals they depicted.

Closing/Reflection

- After the gallery walk, gather students to share their artwork. Ask students to write a written reflection answering the following questions:
    - What soil type did you choose and why?
    - How did you depict the connection between soil and the plants that live in that environment (texture, color, details, etc.)?
    - What did you learn from this project about soil types and the environment?

ASSESSMENTS

Formative

- Observe student participation during the gallery walks at the beginning and ending of the lesson and class discussion to assess their understanding of soil types and their connection to living organisms.
- Student Soil Observation Charts

Summative

- Review the students' artwork for accuracy in depicting the chosen soil type and the plants' connection to that environment.
- Evaluate the students' written or verbal reflections for comprehension of the project and their ability to link soil characteristics with plant/animal habitats.

DIFFERENTIATION

Accelerated:

- Have students work in groups to create a 3D model of a particular soil environment, such as a desert or wetland, and include various plant or animal figures.
- Ask students to incorporate the concept of ecological balance into their artwork. They can depict how organisms depend on each other and how soil affects their survival. For example, they could show a symbiotic relationship between plants and animals in a specific soil type, such as how certain plants rely on specific animals for pollination or seed dispersal.
- Have students reflect on the importance of soil beyond just its role in plant and animal growth. They can write or discuss how soil shapes the landscape, affects water cycles, or influences climate.
- Students can write a fictional short story about a plant or animal living in a specific type of soil, describing how it survives, thrives, and interacts with other organisms. They could then create an illustration or series of illustrations based on the scenes from the story, integrating scientific accuracy with creative narrative.

Remedial:

- Provide written instructions and visual step-by-step guides for creating their landscape.

- Break the art creation task into smaller, manageable steps (e.g., first draw the soil background, then add the plants, and lastly add texture to show the soil type).
- Allow students to collage instead of drawing and painting; students would cut out pictures of plants/animals and gluing them to a background or using textured materials to represent the different soil types.

ADDITIONAL RESOURCES

CREDITS

U.S. Department of Education- STEM + the Art of Integrated Learning
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Cherokee County (GA) School District and ArtsNOW, Inc.
Ideas contributed and edited by: Diane McMullen, Edith Alexander, Liz Pendlington, Jessica Espinoza, Richard Benjamin Ph.D., Michele McClelland, Mary Ellen Johnson, Jane Gill, Katy Betts

**This integrated lesson provides differentiated ideas and activities for educators that are aligned to a sampling of standards. Standards referenced at the time of publishing may differ based on each state's adoption of new standards.*