



ETHNOBOTANY: PEOPLE AND PLANTS

Lesson Three: Build a Model

Utah Core Curriculum Alignment 4th Grade Science Standard 5:	Intended Learning Outcomes: Science
Students will understand the physical characteristics of Utah's wetlands, forests, and deserts and identify common organisms for each environment. Objective 1e: Create models of wetlands, forests, and deserts.	<ul style="list-style-type: none">• Know science information specified for their grade level.• Report observation with pictures, sentences, and models.• Use available reference sources to obtain information.

Enduring Understandings

Biomes are **large geographic regions** that are classified according to the species of plants and animals that live there, as well as the soil and climate of the area. The organisms residing there have adapted to the soils, the temperature and precipitation of the region. Three major biomes are found within the state of Utah. Each has unique characteristics and is inhabited by diverse and unique organisms.

Essential Questions

What are three of the major biomes found in Utah? What plants and animals are found in each of these unique biomes?

Background Information

See the definitions of the three biomes in Lesson Two.

Lists of organisms typically found in each of Utah's biomes can be found in Lesson 2 of this module as well as in the *Utah Wildlife Viewing Guide*.



Lesson Plan

Materials

BB = Materials included in Botany Bin

- BB Sample Photos of each biome, laminated
- BB Lesson 2 / Key - Organisms Listed by Biome
- BB *Utah Wildlife Viewing Guide*, Jim Cole
- 3D Diorama
 - various kinds of art media such as modeling clay, construction paper, toothpicks, twigs, small rocks or pebbles, leaves, dried grasses, straws, stir sticks, aluminum or other shiny paper to simulate water, small aluminum trays, acrylic paint.
 - cardboard platform or cardboard box (shoebox size) for base
- 2D Panorama Book-Making Materials:
 - 2" x 15 1/2" strips of cardstock (one for each student)
 - 2" x 2" square of heavier cardstock for front and back cover (2 for each student)
 - glue
 - scissors
 - 15" strips of 1/4" ribbon
 - coloring media: crayons, colored pencils, water colors, etc.

Procedure

Warm-up

Review information from Lesson 2.

Activity

Students can choose to make a 3D diorama or 2D panorama books:

3D Model: Give each student a choice of various art media to create a model of one of the three biomes you have been studying: desert, wetland, or forest. The model should include a substantial representation of organisms that reside there. As reference in creating their biome dioramas they can use photos and lists from Lesson 2, the *Utah Wildlife Viewing Guide*, or any other background reading they have done, as well as appropriate websites they would like to research further.

2D Panorama Books: Choose two of the three biomes and create a 2"x2" accordion book for each biome in a 2D panorama style. Measure 2" increments on the long cardstock and mark lightly with a pencil.

- Fold at each increment, accordion-style (back and forth).
- Glue the heavier cardstock 2"x2" covers on each end.
- Glue the ribbon across one cover and tie the book together.



Have students draw at least one different organism on each panel with the appropriate background. Drawings on the panels should connect and flow, so that when completely opened, the book will show the entire panorama of the biome, with different organisms on each page. (These can be larger squares if you like – i.e., 4”x4” finished size)

Additional information can be researched at these websites:

wildlife: www.dwr.cdc.nr.utah.gov/ucdc

desert, biomes: www.ucmp.berkeley.edu

wetlands: www.weber.edu/botany (Field Trips; Antelope Island)

plants, forest: www.extension.usu.edu/rangeplants

forest: www.wildlife.utah.gov/education/magazine/life_zones.pdf

Assessment

Display dioramas and books, and have students present a short summary of the biome(s) they created, discussing characteristics of each biome and organisms found there.

Create a rubric for students at the beginning of the project so they will have guidance regarding the evaluation process. Some of the elements of the rubric might include:

- Student demonstrated full engagement in project or best effort
- Final product accurately portrayed the biome and its organisms
- Final product demonstrated attention to detail and neatness
- Presentation demonstrated the use of student’s background knowledge
- Presentation demonstrated higher level thinking skills